

Lecture A

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Lecture A

"Inaugural Address."

The Regio Commissario Commandatore Aphel said:

Bringing the salutation of Rome to Dottorressa Montessori, who with the fervour of an apostle has desired this year also to hold an International Training Course of education and instruction, intended to demonstrate with the authority and eloquence of its results, the effects of the new system which she upholds; which develops without effort of the consciences and intelligence, the new generations. The honour which Dottorressa Montessori has received in far countries, the enthusiasm with which her work here and elsewhere is encouraged, supported and applauded, the presence at this meeting, of the illustrious Minister of Public Instruction, the presence of His Excellency Bertolini; the sympathy of the illustrious head of the Government; the presence of so many ladies and gentlemen, the affectionate wishes of the Queen Mother, who would have done us the high honour of being present to-day had Her Majesty recovered from her recent illness, are the proofs of a wide and certain agreement. Under these auspices and with many good wishes to the ladies who have come here in spite of the inconveniences of the journey to attend the Course, I invite Dottorressa Montessori to give her Inaugural Address.

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Your Excellencies, Ladies and Gentlemen,

We inaugurate to-day the second International Course upon a method of education for young children which, I hardly know how to define, but which goes in general under my name.

The first Course was held last year in Rome, beginning in January and lasting till May. There came representatives of many nationalities; as regards Europe, from England and Germany; and outside Europe, from the United States of America, from Australia, from Canada, from Panama, from the Philippines and from India.

In this second Course the European Nationalities represented have increased. In fact, to representatives of England and Germany have been added representatives of Spain, Russia, Poland and Italy; while from outside there came others representing the United States of America, Australia and the Transvaal.

Certainly the fact is not new of a cosmopolitan assembly of students being attracted to make certain studies, but what is perhaps new is this, that a cosmopolitan gathering of students should meet in a place where there is no great institute organised for studies which are well known in the world as able to attract students to a known centre. On the contrary, this institute is lacking. This International Training Course is then, the result of a spontaneous movement arising in different parts of the world. Persons spontaneously ask to come and study, and it was the persistence of this demand during a full two years, during which it was hoped to found an Institute, that persuaded us, without other means, to commence the Course in what other way was possible.

That there exists an International Movement in regard to this subject we have various proofs. For example, there is the translation of the book which speaks of this method.

The Italian book appeared by the desire and assistance of Baron Franchetti in 1909 in Italy. After two years and a half there appeared the English translation, then the French translation, then the German, the Russian and the Polish. Translations are now in course of preparation into Spanish and Japanese.

Perhaps you would be interested to hear something of these Spanish and Japanese translations. Proposals to translate the book into Spanish came from four different countries. The book was finally conceded to

public opinion throughout the population of this country during my recent tour in America. And I would say that this journey seemed to me like a dream, like something unreal, which might resemble the vision of one who has worked long and finds something beyond the possibility of facts.

Uruguay, since an Inspector General who had been sent to study in the United States of America the schools which might be of greatest interest, returned giving a long account of the schools using this method which he had seen springing up there in great numbers.

And it was then that the Government itself which asked leave, through the Plenipotentiary Minister in Italy, to translate the book with the aim of then being able to transform the schools of Uruguay.

The Japanese translation is also interesting, since the University of Tokio itself took the initiative of translating it.

A literature has also sprung up, however short has been the time since the book became known by means of the English translation. During about a year and a half the following books have been written. The Montessori System - by Professor Smith of Clark University?

A Montessori Mother and The Montessori Manual, by an American writer, Mrs. Fisher?

Auto-Education and the Montessori Method, by Harriet E. Hunt?

A Guide to the Montessori Method, by Ellen Yale Stevens.

The Montessori Method: Principle and Practice, by Professor E. Culverwell of the University of Dublin.

English education and Dr. Montessori, by Rev. Cecil Grant, St. George's School, England.

The Montessori Schools, by Dr. Jessie White.

Also the official reports of the United States of America and England, entitled, "The Montessori System of Education.

The didactic Material used in this method of education is now made in Italy, France, England, United States, Germany, and in two different centres in China.

Schools exist in Italy, England, France, Russia, Switzerland, India and China.

The fact is noteworthy that after the International Training Course of last year seventy schools have sprung into being in the United States of America.

I have had evidence of the position of the movement as regards

For instance: while my boat was still at sea I received an invitation from Doctor Wilson, the President of the Republic. At the first reception at Washington there was present in person the Minister for Public Instruction for all the United States, while the daughter of the President presented me to a great number of personages who had gathered there to meet me. At New York, the great Carnegie Hall which holds over 6,000 people an immense population, welcomed me with enthusiasm, and the greatest thing of all and that which moved me most, was that everywhere were flying Italian flags, bearing the Savoyan coat of arms.

In Providence, Rhode Island, I was brought at evening before a wonderful palace, radiating with light, and I was told this illumination was made in my honour. In fact, the Governor of the State of Rhode Island received me in a room which I saw with deep emotion to be all adorned, and as though carpeted, with the Italian tricolor with the arms of the House of Savoy. The Governor of this State wished to present me in person to the citizens, and made a highly affecting speech, saying to me: "It is a great privilege for me to be able to announce to-day to our citizens, in the presence of its author, that in this State the Montessori Method has been publicly adopted for the schools."

At Chicago, as if they had wished to give a baptism to the Science, the Academy of Science wished to bestow upon me in public all the privileges of the Academy itself.

It would be inconceivable to think that this state of things represented homage to one person, or even the simple, immediate and limited interest in a small contribution of study. Evidently this interest does not apply either to the person or to her work directly, but represents a wider and deeper movement, which exists at this moment throughout the world, in the civilisation of the East as in that of the West, and which accounts for the enthusiasm of masses of people, as though on the eve of a great redemption. Anything which represents a contribution, a stimulus to this, arouses enthusiasm, just as, for example, when a nation begins to feel the need of shaking itself free from oppression, it becomes enthusiastic for any individual that may be called Liberator.

This grandiose movement, of which we are not to-day, perhaps, completely conscious, but which will probably form part of the greatest

history of redemption in the future, is a movement in favour of the soul of the child.

This need of transmitting the greatest works of redemption from the adult to the child, this respect for the liberty of the child, this protection of its spirit which has to be formed, is more or less intensely felt. And it is felt chiefly, as in the United States, where progress relative to the child is much advanced, and where, therefore, the population itself can understand and appreciate whatever a contribution represents of value to the well-being of the child. It is also much felt among those populations, such as China and Japan, that are moving rapidly towards a great ascension.

That there exists a question, which, more than education or instruction, is a question concerning the child, we can have infinite proofs. It is certainly not I who preach it, but it is indicated by all the scientific books of the time. We feel this question relative to the child more particularly in the school, because the school is the place where the great mass of children is collected. But the question extends beyond the school, it is a question which affects the family, it is an universal question.

Always the chief proof that we can cite as a sign of repression, not yet felt by the public, is in the school. It would be long to speak completely of that, but a few hints will be enough.

Let us consult the principle books of scholastic hygiene. They speak of the school desk, which must be made in certain proportions, since otherwise the children at school can acquire that which is not natural to them, a kind of malady due to work, consisting in curvature of the spinal column.

Then we have special devices so that children will not become myopic while working at school. Certain headmasters having recently introduced doctors in great quantity as a part of the school staff, other illnesses have been discovered, which are called maladies of the school. For example, anaemia, neurasthenia, and liver complaint. So much so, that a kind of alarm has been given, causing a general alertness. It has been said that there should be hospitals in the schools, or at least surgeries, and that there ought to be - and there have been established in some schools - orthopaedic laboratories. It has also been said that it

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would be well and hygienic to have cod liver oil in all the schools, or some other tonic for all the scholars.

If we read the statistics among the teachers; we see that the mortality from tuberculosis among elementary school teachers is higher than that of nurses in the hospitals for the cure of tuberculosis. The high figures that have been cited have been summarised thus; it is not true that this mortality is very high, the mortality of nurses in the tuberculosis hospitals and that of school teachers are at the same level.

The reason lies in the crowding which predisposes the teacher to tuberculosis and overwork of the lungs. For the teacher is one who has to be continually speaking in order to instruct the child, so much so, that when it is desired to improve the school by building larger, more airy and hygienic rooms, the teachers do not receive the reform kindly, for they say, "And what is to become of our voices? How are we to find sufficient strength to teach in here?"

There is an interesting anecdote in this connection told by the American philosopher, Professor Dewey, who has applied his studies to the school. He conceived a school different to the present, in which the children are condemned to listen, and sought for some tables and chairs in the great American factories where such material is made. He searched everywhere and found nothing to his satisfaction, and finally a maker said to him "You will not find anything of this kind, since you are looking for a desk which can be used for working, whereas all school desks must necessarily be made for listening."

In this mortal duel between teacher and scholar there are certain aims. One is that of giving culture. The programmes, however, are never determined by any quite rational criterion. The aim of these programmes is more or less arbitrary, given generally by persons having theoretical conceptions, and who have not had the slightest direct practice in school. Another of the aims is that of developing the activities of the pupil. I wish to repeat some criticisms, not mine, but those of Prof. Claparède, chief of the great Jean Jacques Rousseau Institute of experimental psychology at Geneva. He says "It is strange to find in the school such antiquated principles in the education of children. For example, it is sought to exercise what was called, in a psychology which has gone out of date since before the first half of the past century, the faculties of the mind. In fact, they exercise the memory,

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the imagination, the reasoning and the will separately."

The memory is exercised by itself by having the child learn passages of literature by heart. The imagination is exercised separately, for example, by dissertations and by fantastic stories. In early childhood also, in accordance with the methods of Froebel, we show the child some cubes and invite him to imagine that this arrangement of cubes is now a house, now a chair, now a stable, now a horse. Reasoning also is developed apart, as though a thing by itself, for example, by special definitions, or by kinds of syllogisms, and by the resolution of problems which have no interest for the child. But it is important above all, to observe how we try to educate the will. We seek to educate the will by methodically making the child do the opposite of what it would desire to do in everything. For example, the child must listen without having any desire to hear, he must observe without having any curiosity; he must write, compose, discourse, produce a composition without having ideas. And when, for example, one sees that a child cannot do composition because he has no ideas, then on principle, the master does not try to give ideas, but if, for example, he formerly made the child do one composition a week, now he makes him do two or three a week, seeking to develop by exercise, this activity which is lacking.

These criterions refer to an antiquated psychology, and to a conception of the will which is also old fashioned. The latter conception, in fact, referred to the will as a means of overcoming the passions, the instincts which are not good. Now in this way the will thus educated against the instincts which we ought overcome, becomes educated instead against all that which is good in man, and the result is, that the being is placed in the condition of not only destroying the bad things but the whole of himself. But this fact of developing the activities which do not exist separately by themselves, brings a disintegration of the personality which to-day all pedagogists realise. So much so, that in one of the last Congresses in Brussels, in spite of the wide range of the subjects discussed, all ended by agreeing that pupils of all ages show as a constant characteristic weakness of character. An appeal was then made to call the attention of all educators to this to the end that they should seek to remedy this species of moral scourge.

Neither can the social sense be evolved in this school. Dewey himself says with much point: "How can you expect to develop the social

sense in the children at school, simply by the fact that they are seated next to one another? How, in this kind of practical isolation, can the social sense develop? In fact, nothing is more sternly forbidden in the school than for one child to communicate with another. Thus the fact of helping another in his work is the crime of the school."

This state of things is more or less clearly felt. It is more profoundly felt where the schools are more advanced. To-day there is a great tendency to put a school into practice in which a state of liberty for the child should be realised.

The ideal of recognising this principle as sacred, namely that of the liberty of the child, is certainly not new. It has been the ideal of all pedagogists from Rousseau to the present day; only that what was at first a vague ideal of pedagogists, becomes to-day a kind of generalised sentiment, a social movement, a tendency of society, and the efforts of the chief students of the problem are to realise this principle in practice instead of in theory.

It is understood by many, such as Dewey, and the modern philosophy represented by Bergson, that we ought to think in education of the UNITY of the inner life, that we should consider the inner development of the child which forms part of life, as really a living organism which must develop according to its laws; and that we should speak of development rather than instruction. We have to assist the development of this internal life, just as science, for example, has studied the child's physical life.

The development of this species of complex organic life according to its laws, renders necessary, as a fundamental principle, the liberty of the child. It must be he who shall indicate his needs. Among the most influential advocates of this idea, and among the persons who have practically tried to realise it, we have Tolstoy, who from his youth had this idea of wishing to mix with the children of the peasants, and found schools where these children from the fields might develop freely. He sought therefore, to give advice in this connection to the teachers, exhorting them to leave the children free in this sense; that the teacher should try to interpret the interior needs of the child, and respond to them liberally, without any restriction either of programme or of predetermined principles. However, we know that Tolstoy's schools were found to be of little use, and that anarchy really existed in these schools. They have not, in fact, been multiplied.

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Another idea of Dewey's, and which many hold to-day, is that of making the school a little republic, in which the children themselves have to make their laws and govern themselves; and it is found by these means, that excellent results may be obtained in comparison with those of the old school. In fact, they succeed in controlling one another, and in these little republics, there is also an external order. But there is nothing profoundly different to be found between these children and the children we commonly know, while their instruction is almost the same as that in ordinary schools.

One of the greatest observations which are made in these times is this, that when we treat of applying the principle of liberty in the school, we do not have to follow that which constitutes the external appearances of the child, but we must follow those profound instincts which lie in the potentiality of the inner life. If we follow the external facts of the child, we should be following his caprice. The ability of the teacher must be to recognise from this external fact which is the expression of caprice and disorder, the more internal fact from which it springs, and which, instead, is destined to evolve impressive activities of the adult man.

One might draw a parallel between these external activities and the symptoms of an illness. There are the outward symptoms, for example the breakings out on the skin (cutaneous eruptions), but these are not the complaint itself. They are no more than the exterior signs of a more profound trouble, and we then speak of investigating the real state of illness existing in the organism. Similarly, in the psychic life, we must not follow what would be only the sign of the evil which appears at first sight, we must not follow the caprice; but it is necessary to trace that deeper truth which is good, and which, when developed will bring betterment to the adult man.

This appears, in all the facts of development. The facts of development begin in a primordial way which does not really represent their full development. For example, when the child begins to walk, we do not educate him to do so unsteadily, but we understand from the fact that he totters, that his power of walking is beginning to develop? From this fact which, in itself, is imperfect and disordered, we have to understand something more profound, which is coming to birth in the life of the child. And to what is he tending? He is tending towards walking, and it is therefore the moment to help the child to learn to walk.

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Thus, for example, when the child lisps in imperfect baby talk, we ought not to teach him to lisp, but to understand from this defect in speech, in that it is from this baby talk that the speech of the man has to develop, and help the child to develop his speech. And so on, in all those things in which the child shows the first signs of something which must develop, we should try to perceive what is really developing in him and help it. In this way, the child can be left free to develop fully, as long as our aim is to develop his true activities, and not the things which are superficial, for that is to send him back in his progress.

We may say then, that this fact of the liberty of the child in the school represents a problem. It has been an ancient and almost universal idea in education; to-day we must consider it as a problem. To say to teachers "You will investigate which are the deeper activities in these superficial manifestations, and will assist them, leaving them quite free, without programmes etc;" this certainly would not solve the problem of liberty. I believe that the solution of this problem requires the guidance of the positive sciences, which have arisen especially in this last half century, and have for their scope the study of life.

A biologist who is merely accustomed to observing microbes or insects, will undoubtedly be better prepared than a philosopher to discover certain truths about life; and if we are treating of the development of something living, that man will be prepared, as regards method - not as regards the content of his culture, but as regards method - that man will be prepared to help this life, who already knows what are the difficulties in the study of life in general.

For example, one of the principle facts which can be noticed is this. That he who has studied life knows that the phenomenon of life do not correspond with the logical criterions of man, but that life has laws of its own, which we speak of observing and respecting.

We know from biological studies that life in general is so complex that we have to go back to its beginning in order to find how to interpret it. Thus, for example, the study of the superior beings made great progress owing to the study of embryology, that is, from the time when these began to be studied in course of development, for it is beings in course of development that contain life in a state of simplicity which makes an interpretation possible.

It is therefore sufficient to say, that all those who have sought to solve the problem of liberty in practice in the school have

always had children who were too old to enable them to discover the real paths of development. these children, in fact, have been from the ages of 7 or 8 upwards, while it is necessary to follow children in their first years, at the lowest age possible, if we wish to try and grasp some of the principles leading to the understanding of liberty. Let us therefore study very small children.

But we must not leave this to the teacher, this power of interpreting the child and of doing what he thinks fit, because it is impossible for the teacher to have a preparation which would enable him to do that. To leave the child to the teacher, is undoubtedly to leave him in abandon.

Leaving the teacher to solve such a difficult problem reminds me of certain tables which were used in my time in the elementary schools. These gave the teachers the symptoms of the illnesses, saying for instance, so and so are the symptoms of diphtheria, these others are the symptoms of scarletina, etc. The master therefore watched for the indicated symptoms among his pupils, and sometimes, diagnoses were made of children's illnesses, the children all the time being in perfect health.

We should be reasoning in exactly the same way, if we asked teachers to-day to solve this problem. It is an experimental research which will be able to give us the means, the guidance to realise in the school the principle of liberty for the child. In fact, the liberty of the child will not be possible, without auto-education, for when the teacher is left to instruct the child, the latter will inevitably come under this action of the teacher, who will model him according to his own wishes, and it will not be the child who develops freely by himself. A foundation of liberty is therefore, the possibility of auto-education.

From my studies made upon children of from 2 1/2 to 6 years of age, I have derived certain principles which may guide us along those lines which tend to solve this problem. In short, I believe that I have given an appreciable contribution to this complex problem.

In order for there to be auto-education, it is necessary that the child should have an external guide, otherwise he would be abandoned to himself, and there would be no auto-education. On the other hand, it must not be the teacher who guides, but the child must guide himself. It is therefore necessary to present to the latent instincts of the child, to these his initial potentialities, a series of objects which truly

correspond to this profound tendency of the child.

Well then, how are we to know what are these profound tendencies? This is the experimental study. For example, that is an experimental study that I have made, and which represents in this latter part seven years of work, though in all, seventeen years of preparation.

These objects correspond to inner tendencies of the child, and we have the proof of this when the child is so vitally attracted by these objects that not only a superficial part of his attention, but the whole complex of his attention polarises upon these objects in an extraordinary and formerly unknown way; in such a way that a little child of three remains concentrated for a long time, and repeats exercises, the same exercise, twenty times, forty times, up to a hundred times, a thing which no teacher of the ordinary school would have been able to obtain from a small child, but which can only be obtained through a fact of the inner life.

To find by means of patient, long, vast experiment what are all these objects which, through the series of the ages correspond to this intense, extraordinary activity of the child, this it may be said, is to prepare a didactic material which corresponds to the principle of auto-education. For when the child performs exercises with this material, he educate himself, and evidently he does so by himself.

But in addition to being able to attract the child in this very special way, which it is quite impossible to confuse with other kinds of superficial interest, there is another quality which this material must have - beyond this quality of concentrating and polarizing the attention - in order to provoke auto-education. That is, the material must contain in itself the control of errors, in such a way that it is impossible for the child to make a mistake without being aware of it.

Thus if the child makes a mistake he must necessarily correct himself, and while correcting himself he exercises his reason, has to combine and compose things, must decide upon a choice, must think; and thus little by little, the activities of his intelligence develop in conjunction.

When one has acquired, with the exercise of these experiments, a certain sensibility, for instance, that sensibility which I was able to attain after a long series of exercises towards these little children, when one has attained the sensibility of being able to recognise the profound reaction of the infant spirit towards an external object, it is

possible little by little to modify these objects till they are determined precisely in all their particularities, in their dimension, their form, and to their most minute details.

Mothers also sometimes have this sensibility. For instance, a lady once told me a very interesting story of a little child of about three years, who loved to touch and hold in her hand some cubes of a certain dimension, which correspond to the size of her hand; and the child liked to repeat this exercise continually. The mother, wishing to bring about some progress by giving different objects to the child had some cubes made of a much smaller size and in considerably larger quantity. She then found to her great surprise that these objects no longer aroused the interest of the child, who took them once or twice and then left them. This was because because the child had to have objects, had to have cubes of that particular size corresponding to his age.

It is thus possible to give objects in all their minute particulars of form, colour, dimension etc.

Another character which these external objects need to have refer to their quantity. It would seem at first sight, that to multiply the quantity of the objects indefinitely would be to contribute to the education of the child, but this is not the case. Experience has shown me that it is necessary to give the child a determined, precise quantity of material, no more and no less in order to obtain the maximum results.

In fact, the internal development of the child is not entirely confined to its direct correspondence with external objects, but also includes spontaneous interior work of generalisation and abstraction which begins very early.

For example, if we have a certain definite quantity of didactic material for the sensory exercises of the child, so that the child is exercised to recognise a given quantity of colour and form, there comes to him at a certain moment, ~~the possibility to generalise~~, the possibility of observing the whole of his environment. Then the child goes about spontaneously observing, and like a discoverer of the new world, finds with great wonder and surprise, all the qualities of the objects in the environment. He has, that is to say, the spontaneous generalisation of his ideas.

Well then, if we have a quantity of material insufficient for this, we see that this spontaneous generalisation never takes place. In fact, the ordinary teachers will have observed, that they themselves have to lead little children to generalize, to tell them, for instance, of what colour is a dress, of what shade the window etc.

The material which brings the child to this spontaneous reaction of generalization is therefore determined . If, however, vice versa , we give him a greater quantity of objects, we see that this activity is dissipated and the child arrives much later at generalization . He forgets to observe his environment, his attention being fixed upon the indefinite quantity of objects which we have presented to him .

Hence we can define the quantity of objects which will bring about generalization as soon and as perfectly as possible .

The same may be said for the capacity to make abstractions . When, for example, with a certain material for sensory education , giving the child an idea of quantity , we lead him to the principles of arithmetic , which means reasoning with material objects, we perceive that at a certain point the child , as if following one of the most fundamental laws of life , that of least resistance , suddenly abstracts , and can even make mental calculations . From that moment all perform arithmetical operations in infinite quantity , passing for example a whole day , two days , or three in this way , and will thenceforth want to progress in these , and cease to be interested in material objects .

If, however, we give the child an inferior quantity to that which experience has shown to be necessary , the child no longer passes to abstraction by himself . In fact this is what we see in the ordinary schools , where the teacher with great difficulty leads the children to abstract .

We find , however, that this is one of the easiest things to the child , and it is exceedingly wonderful to see the in which our children happily set themselves arithmetical calculation .

If on the other hand this didactic material is excessive , the child forgets that abstraction which arose spontaneously in his mind . This abstraction which came is again referred to the background and the child continues to play with the material objects .

What we here see experimentally with children is repeated in the experience of all of us . We know? in fact, that life is limited as regards material things and that the material things which nourish life must be determined not only in quality but also in quantity .

For example , when we speak of the nourishment of the body, of physical nourishment , we know that just that given quantity of food is necessary for the body to develop in the best way possible ; less than that given quantity brings impoverishment of the physical forces , while

while a greater quantity causes intoxication .

And this we may repeat to all the material things which form the comforts of life , or are aids in any way to the physical life .

When these fall short of or are inferior to that precise measure we have difficulty in development . When on the other hand they are excessive we have degeneration .

The material therefore has to be definitely determined and must also be of the right quantity . But this is a thing, I repeat , which the teacher , if left to himself would never be able to find at the rate at which he has to proceed with the education of the child .

What therefore is the work of the teacher in this case ? The aim of the teacher is to put the profound activities of the child in communication with the didactic material ; and his action therefore has been precisely determined by experiment . His action , his words are counted, are established . The teacher has to do not more and not less than that which experiment has shown to be useful to the maximum possible point to enable the child to put himself into relation with these objects, objects which, more than didactic material , could be called material for the psychic development of the child .

The teacher must also be prepared to observe and recognize this deep reaction in the child , and not confuse it with those superficial reactions which are simply caprice . and this is a thing which is now rendered easy and simple to the teacher prepared in this method since we already know these reactions by experience . Hence the teacher has only to study and observe them , and after a short exercise can take the place of a highly trained psychologist . The type of this teacher is no longer that of one who teaches , but is almost that of the scientist ; for he has precise instruments that he is trained to with great accuracy , and has a preparation which can make him a discoverer of the phenomena of life .

With this , the teacher becomes a factor , and a spectator of a great activity of life developing about him . He need not do other than observe and know how to observe this scene which is undoubtedly deeply moving and interesting . Thus he is freed from the work of continual speaking , which for him very often a condemnation to death , and he is raised to the level of guardian and guide to human life .

The most important thing which results from these experiments refers to the characteristics of the child himself . If in fact we can find a means by which the profound activities latent in the child are all

able to rapidly expand, these means must produce revelations in the child which appear to us as quite new. For up till to-day, we have only been able to observe those chaotic primitive qualities in the child, which he manifested spontaneously without help.

Our children in fact, have presented phenomena which are considered as extraordinary; marvellous, and it is these phenomena which have attracted the interest of the world. The capacity in little children of from two to three years, of closely concentrating their attention, of persisting in work for hours at a time, so that our schools can have a long time-table from 9 in the morning to 6 at night, without the children ever becoming tired, but on the contrary, leaving their work invigorated in their inner life and intellectual progress.

The ordered activities of these children, the vital spontaneity of all their actions; their force of character, their gentleness and good manners, the affection which they show, were, first for me, and afterwards for many, great and moving revelations.

Synthetic of this is a perfect discipling, which establishes itself in these little communities of 40 or 50 children of from 3 to 6 years, a discipline which has not hitherto been known in any form of school. It is not the discipline of coercion, nor is it the discipline of reciprocal control of the little republic of the most modern reform schools.

In fact, these children would be incapable of reasoning, of judging for themselves as to what actions are good, what are bad, or to organise a reciprocal control over one another. That is to say, this discipline has none of the external foundations, such as that of coercion and that of the little republic, but it is a new discipline, with an origin which is quite internal. The child disciplines himself, because things brings him the normal development of life.

This discipline arises from an inner order which elaborates itself little by little with the well directed activity of the child. Discipline is a form of his life. Just as the body, when it develops normally according to its laws, provided it is well conceived, produces beauty as a kind of synthesis; so the inner life developed with order in the perfection of harmony, produces discipline.

It is an inner fact which is spoken of in that quotation from the Bible which says, "Who will find the ways of the true discipline?"

And we conclude that these ways are the same of those of general formation.

Discipline is a consequence of a form of inner life led to its full perfection.

In that case, then, if individual men have this quality of being able to realise their inner development to the point of possessing a perfect form of discipline, we may affirm that the question of education - and this is no more than a first hint at a much vaster question, a first step upon a road indefinitely long - we may say that the question of education is not a question of culture, a question of leading men to a practical application of life in society, but it is a much deeper question, it is a question of life.

Lecture B

For private circulation among the members of the class only.

This version of Dr. Montessori's lecture, being the translation by Mr. Claremont, of the report taken down viva voce, Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorised for the personal use of the members of the class.

Lecture given March 2nd.

In my last lesson I attempted to make a complete presentation to you of the didactic apparatus. And although this was insufficient to provide you with a precise knowledge - a knowledge which you will obtain during the course - it was nevertheless able to give a general conception of those means which we use in order to provoke in little children of from 3 to 6 years of age the phenomena of auto-education.

As I said in my Inaugural Address the problem of liberty is one which is bound up with the possibility of realising as a practical fact auto-education, and the possibility of realising auto-education lies precisely in the provocation of spontaneous phenomena, not in the exterior action of the teacher who teaches the children.

It is not a person that has to be prepared for this, or at least it is not only necessary to prepare a person; but above all fundamentally it is necessary to prepare certain objects which correspond, not to the superficial and capricious activities of childhood, but to profound potentialities, and capacities which it has to unfold, but which are unconscious and must therefore be interpreted by experiment.

These objects must correspond to this profound potentiality. To-day they represent the study of one or two persons, for example, myself, persons make an experiment, which, when it succeeds can then be passed on to others, enabling them to practice this kind of free education in a class of children.

The objects which correspond to this activity, which, although latent, is yet operative in the ^{child} ~~adult~~, attract the child's attention in a special way, and provoke a spontaneous exercise.

To-day I wish to give a general glance, as I have given a general glance at the material; a general glance at the reactions of the child, since this may be a guide to you in your observations of the children in the Children's Houses. Thus when you pass mornings in contact with the children who display certain phenomena that require a preparation for their interpretation you may be able, if nothing else, to

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make more intelligent observations of these phenomena. This will be the ^{scope} ~~scope~~ illustration, to enable you as far as possible to interpret these phenomena in their profundity, to become practical observers of children. This also is a thing which will come as the course progresses, and render you capable of making an ^{ordered observation} ~~ordered~~ examination of the whole personality of the child. You will be aided in this by the guide which I have permitted myself to offer you, and which consists in a card containing many notes, which when explained will enable you to make a study of the child, which will not be based upon the fancy of the observer, but have the value of a document.

This subject is so wide and so deeply interesting that it is very difficult to give merely the general idea of it in one lesson. I wish to cite here, not my own experiences but rather the experiences described by some of my pupils who have experimented with my method in the Children's Houses.

Publications of this kind have already appeared, by persons who have opened these schools and made a personal experiment, and who have then published their results, briefly, in the form of articles, a thing which is different from a real study made for example with biographical charts.

Nearly all these experimenters find at first, that the school for small children using this method is very discouraging for the teacher, because the children present a characteristic disorder. It is the disorder which is usually seen where it is thought that the freedom of the child signifies a species of abandonment of the child. In fact little children gathered together in a class, for instance, thirty or forty children of three to six years of age, if perhaps an experienced teacher thinks that she must leave them literally free in the external sense, manifests all those reactions which are superficial, which are chaotic manifestations of profound activities of which the child himself is unconscious. I gave you an example in my introductory lecture of these forms of activity which will have to evolve and which from the child will form the man; for example the activity in connection with one of the primitive forms of physiological development of the child that of walking. When the child begins to walk he makes efforts, he falls and he falls. And the child who tries to talk first makes sounds and then has a language which is very imperfect. These two facts

which are fundamental, since the development of walking and of language are the two principle developments belonging to the first years, these facts may be repeated for every manifestation of the child and also from these psychic manifestations. Thus, for example, when the child, in an age more advanced than this, begins to establish the powers of walking and language, becomes an explorer of his environment, and seeks in his mind which is still void of experiences, to collect spontaneously from the external environment, by an instinct which not directed to him, but which is only a primitive impulse, which seems to take sensations from this environment and to obtain conceptions of objects. In this first moment the child is disordered rather than acting upon some idea, he obeys some thing internal, obeys an occult purpose which is not clear in his mind, and just as he who obeys an occult command acts without discernment but with a profound belief, in this case he obeys the voice within him.

Tries We see then, that the child looks at everything, ~~tries~~ to touch everything. But this is a nuisance to us, and we do not have patience with it. The child becomes a dangerous being for our adult society and we seek to banish him from it without other thought and to reduce to a force; whereas this is the primitive means of the child for forming an exact idea of external things. As you know from ideas of physiology, before the child with his eye can have sensations which refer more or less exactly to the object, much time must pass for a psychic adaptation to take place and the child has to make many *experiments* ~~experiences~~ cases.

On the other hand it is much easier for him to gain an immediate and real idea of things by touch, and therefore it is with the touch that the child begins to become an explorer. But we find the child a nuisance because they touch everything. The child has to coordinate his movements, and no longer merely those of walking, for man does not only walk like the animals but he has to coordinate that immense complexity of movement which is peculiar to man, that is he must coordinate all the movements tending to the accomplishment of the purposes which will be the high purposes of the whole of humanity.

For this reason, coordination in this case being very difficult and complex, we see the child perform real exercises of motion in which he obeys an occult inner command. Undoubtedly the little child does not think "I now wish to do these exercises in order to be able to move like these adults about me, and one day to work," and in

shot by that imitation he would not find the way. Because if he could imitate the adult he would have already coordinated his movements.

But he has not yet coordinated them and this he must do ..

It is naturally therefore impossible for him to imitate the adult in his coordinated movements, and that which we see is, not, at least in great part, is not imitation, but is really an obedience to an interior order, to a form of life, to an unfolding which is characteristic for man, namely that of moving in that special way, which will bring the hand to obey the will, and that also in certain way is comparable to that activity which is possessed by some animals of making certain movements for a purpose of nature - in fine it is an instinctive impulse which must develop, an impulse which we adults must interpret, an impulse which is unconscious in the child.

The child manifests this in a series of exercises which not being and absolutely not being able to be the exercises of the adult, appear to us as disordered movements. And these disordered movements are precisely the characteristic of infant movements. The child moves in a disordered way, in whatever way he can. He has primitive movements, for example that of prehension (taking things) The child takes everything. He has a movement of throwing; the child takes objects and throws them away, and so on.

There are also internal movements, or groups of movements which allow the body itself to move to develop for itself, not for an external purpose for instance of work, of the movements which are also coordinated. Hence the child does a quantity of exercises for example he throws objects on the ground, moves his legs etc.. And this grasping of objects sometimes also takes place between one child and another, it may consist in wresting objects from the hand of another, and in this case we have also the convulsive psychic work of one who moves, as happens ever to us adults when we are seized by a powerful emotion. In agitation we take first one object then another and leave them without knowing why, simply because we are agitated and because order is no longer in us. In children order is not yet formed, and we see this agitated movement continuously in this great experimenter that is the child.

These experiments are anti-social, they are contrary to our adult society and we therefore try to respond to the child by inviting him to keep still. We have the illusion of being able by

means off a word to lead the child even little children towards//
 Thus for example we say to a child 3 "Behave properly" with the illusion
 that being able with these words to coordinate the movements of the
 child, to give his will such control of them as will enable him to be-
 have like us; without it occurring to us that in doing this we commit a
 criminal act of pride since we believe ourselves to be creators, and
 wish to say as we have read in the Bible God said "Let there be light
 and there was light". Let there be order in the child and there was order.
 This order which we cannot give only the self-exercises of the child
 can give. We can therefore do a great thing we can help the child
 patiently and wisely to progress more directly and rapidly towards his
 natural goal. We cannot then order, give commands to keep still not to
 touch, behave, and be good, profoundly misinterpreting the word good
 but we ought armed with great patience to teach to try to teach little
 by little that which the child can do, and to know what the child can do
 it is necessary to have studied and experimented. It is this which
 we shall try to study practically together.

Now when the teacher who is not very expert - who is
 as we say on her first trial - begins to teach in the Childrens Houses
 she finds herself confronted by this spectacle of apparent disorder
 of the children who are acquiring their experiences. The aim of the
 teacher will be that, not of repressing the efforts of the child, but
 of directing them; one might say of enchanneling these forces to a use-
 ful order to the profound unfolding of the life of the child. And this
 by seeking to bring the profound activities of the child into relation
 with these objects, which experiment has established as adapted to re-
 spond to these intimate activities of the still latent and disordered
 child.

And the teacher will have to know how to put these
 objects in touch with the profound attention of the child, a thing
 which is not easy at first and need not cause us surprise for the child
 of three is already an individual who has known hard experiences in his
 environment, and when one person has gone through some hard experiences
 the sources of his life; are already a little overshadowed and the child
 does not recognise, one might say that which is true and necessary
 for him. As we adults, owing to the hard mistaken experiences that we
 have long undergone, often possess a spirit which is overshadowed, and
 do not recognise and run towards our good. Often we become aware of it
 with a great upheaval of our conscience, with a kind of conversion.

Since the task of the teacher is not so much material, but also a spiritual task, to know how to evolve from the deep springs of life, these activities, which, let us say, are to save the creature which is growing. But if we spoke of a purely material task, of merely setting the object in front of the child, anyone could prepare himself in four or five hours to present these objects, (which would in that case have a magic power), to the child and watch the development of extraordinary activities which continue to infinity. This sometimes happens and seems like wonderful and miraculous; it happens in the majority of cases, but not always. It always happens however in the end, at least as far as experiments have gone to-day with children of various races in different countries, it always happens that the teacher succeeds in provoking that phenomenon, which consists in this, that the little child becomes attracted for a long time by an object, and exercises himself with constancy upon this object, so that he remains vitally attentive to something external and singularly constant in the repetition of the same action.

One of the principal facts, the fundamental fact among all is precisely: that the child suddenly fixes his attention upon an object in a way which we are not accustomed to see in little children with an expression of intense attention; pursues an exercise and repeats it with constancy many times over, for instance ten times twenty times forty times and more.

Upon this fundamental fact is based the whole mechanism of auto-education. Hence this is the first directing principle, the first phenomenon to guide the teacher who observes. I have therefore in my guide to the study of the child repeated everywhere this little scheme which you will find inside the biographical chart and in this little book which is used for making notes on the individual psychology of the child. I have repeated it on the blotting and elsewhere. It will serve as a fundamental guide for the observation of the child.

I call this attitude, this phenomenon of spontaneous attention on the part of the child, who repeats the exercise with an object, I call this work, because it has in fact all the appearances of work. The first phenomena therefore to observe are those of spontaneous work, to note when the child begins to persist continually at a work. This is everything; when this phenomenon has occurred the remainder is easy, all the rest comes of itself. The difficulty of teaching is overcome; she has no longer other than to follow the

wonderfull spectacle of an infant spirit which develops. All the needs are no more than particulars of this phenomenon; for example which work the child chooses and how long he persists in it, what are his individual peculiarities in application to a particular work, to what exercises he applies himself successively in the same day and with what constancy, if he has long periods of spontaneous work, and for how many days ..

Then there is an observation which may seem strange to one who has not had experience in this connection; namely, how the child manifests his need to progress.. The child has a fact this internal sensibility of knowing his own maturity and his need to advance .. And when the teacher has learnt to observe that she can follow him with a delightful ease, for nothing is more moving than to realise how man tends spontaneously towards progress, and the little child demands to do more when he has arrived at maturity in the less..

The old child psychology told us that a characteristic of the mentality is the instability of the attention :: the child cannot pay attention to one thing for more than an instant and passes rapidly from one thing to another .. While here, as I have said the phenomenon which is general that is a law, - which nevertheless was new also for us, - consists in the fact, that the child fixes his attention for a long time.. Now to fix one's attention for a long time upon an object, to be constant in the same work is a different thing according as it is; done in an environment which is calm or in an environment full of stimuli which tend to distract the attention. And we see in the progression of the attention of the child that at first it is the former simple fact, that of constancy in an environment relatively calm, or at least in which the child's attention is not almost obliged to wander, where there are not for example surrounding stimuli people who enter or speak, pianofortes being played etc.; whereas eventually the child remains constantly at work in spite of any stimulus in the environment. Thus for example, we have the fact of a hundred persons at once sitting round the children, who speak to one another, and are evidently interested in them, but they the children unperturbed in their continual work.. We sometimes see in the environment facts capable of suddenly changing the whole environment itself, for instance when the teacher plays an nearly all the children follow this sound, marching and beating tambourines, we see some who, immersed in a work which absorbs the deep activities of the spirit which remain undisturbed. And this is a

phenomenon which up till to-day we have associated with men of genius who being for example under the influence of an inspiration, or if they are mathematicians in tent upon some great problem, do not hear their wedding march or music, or do not notice that the house is on fire. But this was thought an extraordinary thing even for the adult man, and this fact which is manifested by little children is therefore worthy of great attention, little children having the reputation of having instability as a characteristic of their attention.

Now it often happens that we are instinctively overbearing and cruel with children, oppressive and foolish, and however much we wish to correct ourselves and teach ourselves to respect infant activities, it befalls us very often not to respect even that marvellous concentration upon some exercise that seems miraculous to us in a little child who resists all temptations. For when we see that he does not leave his work, we drag him from it ourselves with violence saying to him "Come and do this instead". This may happen by chance in the environment, for example, a visitor who has a special interest in making an experiment upon the attention of the child, and admiring this, sometimes says to us: "Please show me how the child can be drawn from his work." We say to the child "Come and do this instead," and the child who, when he has arrived at this point of inner perfection is profoundly obedient courteous, willing to comply with any desire, leaves his work and does what we wish. It has happened, for example, that a child was painting and was invited to sing, or that in the examinations children who were drawing were called by a pupil who had to demonstrate with the tower; this child who already knew how to do it and therefore had no interest for this exercise, built the tower putting one pink cube upon another. This is more than a distraction in the environment, more than a temptation; this is to materially enforce the sin of ignoring that force developing within us. However the child when he has satisfied this importunate person, returns to his work in which he was previously interested. So that we see, for example a little child of four and a half, who is painting a pretty picture, invited to sing, sings, or invited to build the pink tower, does so, and returns to the painting of his picture.

This then, is a phenomenon of fixation upon an exercise,

much deeper than the other, in which the temptation of the environment, however strong, was not violent and did not succeed in distracting the attention of the child.

There are therefore many grades in these notes that are made here under the paragraph of work, grades which evidently occur not in external work but only in that as a manifestation which for us is a symptom of an inner work of formation of the intimate life of the child, a work of inner growth.

In fact that in which this method differs from others is in this fact: we do see external work. We cannot heap together a number of objects and say, "Look what our children have done." We come truly empty handed. These external proofs hardly exist. Instead there exists the work of a child. The handywork which we can display is the developed child; we might recall the ancient tale of Cornelia mother of the Gracchi, who, when asked by a Roman lady who had been displaying her jewels to show her jewels, answered, "Wait a little and I will bring them;" and when her two sons arrived (who were to be the famous Gracchi) she said, "Here are my jewels!"

And thus here, if some one should say "Look what splendid things our children have made, pray show us what yours can do", we should have to answer, "Wait till you have eyes to see and then we will show you our work. Our products are the children who have accomplished a construction within themselves which for those who can value it can be more marvellous and precious than any external work. And the proofs of this great interior work we have in other parallel observations which are noted under these two other headings, conduct and obedience.

When the child has begun the work of auto-education he does not perform that external—evident act of reaping the exercise, but his acquisitions are also intellectual, they are at least acquisitions of organisation of the mind. For example the child has refined his possibility of realising with his senses the facts of the external environment, he has perfected his ability to reason about the errors he has committed working upon the objects of the didactic material which have in themselves the control of errors; but undoubtedly a much vaster work has formed within the child, for his moral behaviour has changed.

We observe this as a phenomenon, as we observe the phenomenon of that attention which little by little acquires always

more of the ability to concentrate upon an external object..

Now we can be guided in our observation of the change in the children's conduct.. It is the simplest of observations to note the state of order or disorder in the actions of the child; to notice which are disorderly acts, and to observe if the changes in conduct occur during the development of the phenomenon of work.. The fact is that an order in the actions establishes itself spontaneously. And this order in the acts becomes established little by little as the capacity deepens of remaining concentrated upon some piece of work. Now conduct does not enter the region of order coldly, as the hand becomes practised and gradually obtains ability in playing the piano; but there are sentimental crises in the child, for example; crises of joy or affection, or states of serenity, that come unexpectedly and stay. For example, there have been teachers, who, while noting a maximum in the work of the child, have said, "At this moment the child came to caress me," or, "He came to kiss me," or else, "The child felt the need of being near me," Phenomenon of affection which are also shown between companions.. We observe joy, the happiness of having succeeded, of feeling oneself bigger, which lead to a living sympathy and above all to a great interest in companions. In fact, as the last part of this series of phenomena which develop in regard to conduct, we have this; the interest which the children take in the development of their companions. We see a child much moved because a little one has made a progress; a child who excitedly follows the efforts of another to succeed in some difficult action, the spontaneous interest which he takes himself in observing the work of the other children..

Lastly obedience. For us obedience in the child represents the most excellent part of discipline. One might say that what we desire to obtain in the child is obedience. Now it is held that the child of from three to six years of age has as a characteristic, together with that of instability of retention, a disobedience that is exceedingly difficult to overcome, so much so that the defect of the child is disobedience. And when we wish to give an analogy to the child, we should not say to him "Try to save your fellows" or, as the ancients said when their warriors went to battle "Return with the shield or upon the shield". Come back victorious or do not come back; when we wish an individual to attain sainthood in the most ideal

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virtue, we express something elevated and distant like a great anguish.. And the correspondence to this difficult and ideal thing is in the child, to be obedient..

We say to the child "Be obedient!", and saying this we are actuated by a great illusion.. For we think that in saying to the child: "Be obedient!", we have done all, have obtained all from then we shall say to him "Be good!", and he will obey, "Keep still!", and he will keep still, "Do as I do!", and he will do it, as if there were a kind of general will, that once having become operative over the child will direct his future and his progress..

And we find the child disobedient in general for this reason, because in reality he is never an instrument in our hands, and exactly because that which I said, because we command, the child to become a man, and he cannot without having performed certain exercises and passed a given time. Because we are strong, we morally demand of the child to become adult and are offended if he does not obey.. And we do not reflect that it would be the same if we should say to the child who has a certain height, the stature of a child of four years, "This evening when I come home you are to be as tall as I!", but the child says "Wait the passing of my time!"

Now disobedience to absurd orders is not disobedience and perhaps the stigma of disobedience attached to the child is one of the great calumnies that we have perpetrated on little children.

Some will say, But if we order the child to do a thing which he likes, then he is not obedient.. For instance if we say eat this sweet, and he eats it this is not obedience".

For we start from superficial and exterior points of view, and believe that the child is only obedient when he makes an effort to follow the command which we have given, and certainly we no longer see an eloquent struggle if we command him to do something that he likes..

But we cannot really order anyone.. This is an instance of pride.. We may not command the child according to caprice, but we must know how to order those things to the child which he really - not only can do, but really ought to do, not in obedience to us in a direct way, but especially in obedience to a deeper command than ours which comes from within the child himself, and whose orders he ought to obey. That is, we ought to direct the child in the ways of his growth, so that

he shall be able to obey us.. We must not command actions that he cannot follow because he is not yet ready to perform them, but we must guide him to maturity; and if we guide in this sense we shall find him obedient.. For the fact of obedience is a fact of great complexity.. If, for instance I should say to one who has no knowledge of music; "Play", this person would undoubtedly disobey me, but it would be slander to call it disobedience.. I have given an order which I should not have given because that person was unable to carry it out.. But if this person should set herself to learn to play in order to obey me in a year's time; I could find no greater example of obedience..

Now it is found as a fact in the little child that he is very easily obedient, and that this phenomenon of obedience establishes itself little by little in him as a consequence and we can observe various stages in this development of obedience.. It is these stages that I have sought to note here in a special paragraph..

The first fact, and one which is very simple is to see if the child responds when he is called.. Then below this there is another stage (I skip the second) to notice the establishment of obedience.. Thus in the first fact, he does not have to pursue some occupation, but has to conquer himself and transport himself where we wish, a thing which requires a previous preparation in him.. Note the establishment of obedience to commands when the order the child to do something which he can do, and this has to form part of the preparation of the teacher who following the child's development, must know what things she can command.. To note the establishment of obedience to commands is a step that we can find more or less in all schools.. To note when the child shows obedience with desire and joy.. Also here in a high stage of development, these grandiose inner phenomena do not evolve in coldness, but with feelings that are visible and striking? For example, we begin to see the wish of the little child to obey, and the joy which he feels when he can obey.. For example in the instance cited, when the child is painting, and I said that we are cruel to drag him from his work and make him sing we see that, when he has arrived at this level of development he hears this call and responds with a great desire to be able to obey in the best way possible, and undoubtedly he will sing in the best possible way, build the tower in the best possible way, and then, when he has done this, as though he had overcome something which has

made him bigger,, feels a great joy.

Then it is important to notice all these facts of obedience and conduct parallel to the phenomena which develop in work. I have therefore written here ; 1) "Note the relationship between the various phenomena of obedience in their relations with the development of work and changes in conduct".

I began by saying that II would recount the experience of some of my pupils, and I have only dealt with the beginning. I said that these pupils of mine found an initial disorder,, and I have hence given a general idea about order so that you may commence your observations in the school. And since the hour is now finished, I will continue the same subject next time,, relating some interesting experiences which have been made.

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Section C

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Lecture given on march 4

I have promised you to read certain observations made by my students who found themselves in the position of directing Case dei Bambini, and being new to the application of this method they found themselves in the presence of a first period of disorder which is characteristic in the school held for the first time by one who has studied this method .. Their experiences may therefore be interesting to those who wish to enter this work- they may be a help to observation.

This first description of initial disorder is by Miss George who was the first to attempt a school of this kind in America. Speaking of her little pupils she says: "At first the children snatched things out of one another's hands. If I attempted to explain one object to a particular pupil, the others would drop what they had and gather noisily & aimlessly about us.. When I had finished they would frequently all pounce upon this identical object, and even quarrel for its possession

This is one of the facts most often seen among children, viz.: that all the children of a group want the same thing, & therefore being only one object, they struggle with one another to possess it.

Another characteristic the instability of the attention: "the children showed little interest in the materials & passed from one object to the other without remaining at any. One boy had so little control that he could not sit still long enough to run his finger around a small circular object. In many cases the children's movements were entirely aimless. They would run around with no particular objective point, stumbling against tables & overturning chairs, & stepping on the materials.. They would start for one place & suddenly run in another direction.. The following are the experiences of Miss Dufresne, who has started a school in England--

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the says it must confess that the first few weeks off the school were discouraging; the children were unable to fix their attention upon any occupation for more than a moment; they showed no perseverance and no initiative, sometimes they just imitated one another and behaved like a flock off sheep.. when a child took an object, all the others wished to imitate him.. Sometimes they rolled on the floor and upset the chairs.

During these first five weeks off the school I had to resist the natural temptation off interfering with these children with violence..

Here in Rome some pupils off mine who have directed a class off children for the first time say briefly as follows. "The chief preoccupation in our school is the discipline, we wished to obtain it without resorting to the ordinary methods. Our difficulty was aggravated by the fact that our children seemed to be at sea in their work, and disinclined to be shown.

Let these same persons describe the way in which discipline established itself in the class,, and this they describe as a phenomenon which came about.. I now wish to read this description,, but first let me call your attention to the fundamental fact; the first beginnings of discipline. This fundamental fact consists in a deep interest which appears in the child at a certain moment towards some object. It need not be towards any particular object, what is necessary is this profound interest. Hence it is an inner not an external fact,

It is interesting to notice that when the child has once had this deep interest in some one of these objects which we present to him as corresponding to the needs off the child, the child afterwards becomes interested in all the objects and begins to form within himself a kind of order and the capacity for working which little by little develops as a natural phenomenon. This fundamental fact was also observed by Seguin.. When he began to educate idiots, Seguin had discovered by experiment that the possibility of educating an idiot child began from the moment in which the child was able to fix his attention and carry out an operation whatever its purpose.. The educability of the idiot or not of the idiot could be established in this way alone,, after the experiment made by Seguin.

And Seguin tells a story that may be useful in fixing in our memory this great principle,, which according to our experience is also a principle which applies to normal children; he speaks in the

first edition of his great French work "The Education and Hygiene of Idiot Children" of a child who belonged to a very rich family, a family of noble descent. In the palace of the parents of this child, there was a picture gallery containing the portraits of the ancestors of the family. Saguin had tried to teach the child to shoot at a target but without success because the child could not concentrate his attention. But one day he found that the child had suddenly commenced this exercise aiming at the faces of his ancestors in the portraits of the gallery, and was shooting arrows at all the portraits. The parents, horrified, asked what this master was doing who had caused this awful disorder and given arms to the child, who at least before was not armed. But Saguin said: You sacrifice the effigies of your ancestors but save your heir, because this is the first voluntary act of this child, his first voluntary act tending to a purpose. Now what the external purpose may be does not matter, what does matter is to recognize the inner purpose which is born in a person, because this first intention, this first action having a purpose, this first inner act having a purpose is the beginning of a life which will awaken with great facility, so much so that it seems almost like a natural phenomenon of growth.

Now reading off these phenomena concerning the establishment of discipline, I come across descriptions recording this fact, the fact of the commencement of something which remains with stability, and which develops by itself. It is not a phenomenon of slow progression, as the progression is slow of something which proceeds in direct relation with an external action. But it is an unforeseeable phenomenon a phenomenon of explosions, facts which themselves suddenly, which have relation to the crises of life that we find in all the phenomena of growth including those of physical growth. In fact it is from one day to another that children cut their teeth, it is from one day to another that the child speaks a word; it is from one day to another that he begins to walk; and when the first tooth is cut all the teeth appear, when the first word has been spoken then language develops; and when the first step has been taken there follows the development of walking. And so on.

This is the description of the appearance of discipline in Miss George's school in America; "In a few days this nebulous mass of whirling particles began to assume definite form. Slowly the children began to orient themselves. In the several articles which they had at first despised as rather stupid toys they began to discover a genuine interest, and as a result of this new interest, they began to act like

dependent individuals.

Miss George's experience is: "They became extraordinarily individualized". It then happened that an article which would engage the absorbing attention of one child had not the slightest attraction for another. The children separated one from the other in their manifestations of attention. The battle is definitely won only when the child detects something in a particular object that spontaneously arouses a great interest in him. Sometimes this enthusiasm arrives with a strange suddenness. I tried one little boy upon nearly every article without arousing a spark of attention. Then I casually showed him the red and blue spools & called his attention to the difference in colour. He at once seized upon them with a kind of hunger. He learned five different colours in a single lesson; in the next few days he took up the articles he had previously scorned and mastered them all. One boy who at first had little power of concentration found his outlet in one of the most intricate of the Montessori materials - the so called "long stair". He played continuously with it for a week, learning to count and do little sums in addition and subtraction. Then he returned to the cylinders and several other more simple toys and finally became interested in all parts of the apparatus.

As soon as the children found their objects of interest disorder disappeared. they found more entertainment in their blocks their colours, and in their stairs than they did in mental vagabondage. It is interesting to see how the special characteristics of the child develop after this phenomenon. Miss George instances a species of independence that evolved in a little child of three in her school.

There were two sisters, one of three and one of five. The child of three did not exist as an individuality, for she followed her elder sister and exactly repeated everything which the latter did. For example, the elder sister had a blue pencil and the younger was not happy till she also had a blue pencil. the younger could not even eat her toast unless her elder sister ate hers at the same time, and so on. This child took no interest in anything in the school but simply followed her sister imitating whatever she did. One day the little child became interested in the pink cubes, built the tower and took a lively interest in this. She repeated the exercise many times and forgot all about her sister. The elder sister was so astonished at this that she called to the other and said "How is it that I am filling in a circle and you are making a tower?" And from that day the little one became a personality and began to develop

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by herself, no longer being merely an imitation, the reflection of her elder sister.

There are other extremely interesting things that have been observed in one place and another, by people who have made these experiments; facts for instance of this kind, the spontaneous development of qualities which before did not exist in the individual after this fundamental phenomenon of special interest in some work.

Thus for example, Miss Dufresne speaks of a little child of four who was quite incapable of carrying a glass of water without upsetting it, absolutely incapable; so much so that she refused to do this because she knew that she could not do it. She began to take an interest in work of some kind or other, and after that began to carry glasses of water with great ease, and as some of her companions were painting in water colours it was her mania to carry water to them without spilling a drop.

Another incident worthy of profound attention is that related by Miss Barton of a little child who was the sister of an older child. This little child had not yet developed articulate language and only made inarticulate sounds and the parents had actually taken her to a Doctor to have her examined and see if she was an abnormal child. He said that the child was not in the least abnormal, that she had not yet developed language externally, but that this would come. This little child took an interest in the solid insets; in taking out the little wooden cylinders and putting them back. After having done this with intense interest she ran to the teacher and said "Come and see!"

Of the facts which we meet with when the children thus begin to take an interest in work and to develop themselves another phenomenon is that of joy, the sensations which the children have of this inner development of the acquisitions which they make, increasing themselves, the consciousness of an inner fact which they show by an expansion of joy, an enthusiasm of which Miss George says "The children shewed all that pride in discovery that comes to us when we have really done something ourselves. They would jump up and throw their arms about my neck when they independently mastered such simple things as the cylinders or the buttoning and tying frames. "I did it all myself!" "You did not know I could do it did you?" "I have done it better to-day than I did yesterday!"

Now it is after this fact that there comes a real discipline, of which the chief manifestations are respect for work as such, and the

consideration of the rights of others.

In fact, it ceases to happen that a child tries to take the work of another even if he wants it. When he wants it, he waits patiently until this exercise is free, while the child is often interested to watch the other child working with the object that he would like to have himself. Then, when discipline is established by these inner facts, it comes about that one child works independently of another, as though to develop his own personality, but from this work there does not arise a moral isolation, for there is, on the contrary, an interest between the children, reciprocal respect, an affection, a feeling which rather unites people than separates them. Thence comes a complex discipline, which also contains in itself the sentiment which has to accompany order in a collective society.

Miss Dufresne says "On returning to school after the Christmas holidays, a great change took place in the class. It seemed as though order established itself, without any need for my interference. The children seemed too busy with their work to make all those disordered actions which they did before. The children went to the cupboard by themselves, to choose all those things that formerly seemed to annoy them. They took the geometric figures, the graduated cylinders, began to run their fingers round the edges of the wooden shapes, the smallest especially the frames for buttoning, lacing, etc., and took them one after the other without themselves tired, and seeming happy to have new objects. An atmosphere of work spread over the class. The children who till now, had chosen articles merely for the caprice of a moment now found need for a kind of rule, for a personal and interior order. They concentrated their efforts upon this work, exactly and methodically, finding a real satisfaction in surmounting difficulties. This precise work produced an immediate effect upon their characters. They became more masters of their nerves."

Here Miss Dufresne gives the account of the child who carried the glasses of water. But the example which struck her most was that of a child of four and a half who at first seemed very nervous and over-excited and who disturbed the whole class. This child had developed his imagination in an extraordinary way, so much so, that giving him an object he did not observe in this the form of the object itself, but personified it and also personified himself, talking continually. He also imagined himself to be a person different from what he was, and it was also impossible for him to fix his attention upon these objects. While he wandered in this way

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with his mind, he was unable to make any precise action, for instance too fast a single button. In a little while, says Miss Dufresne "a wonder began to work in him. I observed with astonishment a considerable change take place in him; he took to one of the exercises as a favorite occupation and then chose all the others... and in this way his nerves became quieted".

When in general some of these fundamental phenomena have occurred, it is interesting to follow the history of each child, as each child passes from disorder to order, and how after the phenomenon of a first moment of attention, this order develops in the inner life of the child. Here we have individual differences, because in all these successive formations, each ~~one~~ ^{one} follows his own way and manifests different ~~characteristics~~ ^{an} characteristics.

I tell you these things at first, although they should really be said at the end to have their full interest, so that you can better utilize your observation hours in the Observatoire, and because these observations made by some others at the beginning of their work may be an easy guide to these observations.

Here are some individual studies made by certain of the teachers in Rome. I have chosen from among many those of two children who are very different from one another. One of them came to school very late, already big and developed externally. The other, was small and of the normal age for entering these schools. One of the children, the bigger, was enrolled late in the school, after he had frequented a Probian school. He had been considered very troublesome in this school because of his liveliness. He was five years old. In the first days he was a torment to us because he wished to work, but was not happy at any occupation. He said "This is play" and sauntered about the school, when not annoying his companions. Finally he took an interest in drawing. Although drawing ought to be taught after the sensory exercises, the teacher showed the child how to exercise himself in the work he desired? passing over sensory education because she saw that it would be useless to set the child to an occupation which he had no desire for. The child had passed from one occupation to another; had also taken the letters of the alphabet without remaining at an exercise.

Now here we have the characteristic expression of the teacher who observed such a child work for the first time.

"We do not know what was the precise moment in which the change took place ;, unexpectedly and spontaneously discipline gradually established itself, and became perfect and more elevated as the interest of the child grew in the occupation which he had .. When this child had begun to take interest in drawing, an interest also awakened in him for all the other occupations .. Thus for example he used the colour gradations, the long stair, the plane insets,, and then he himself returned spontaneously to those exercises of the senses which the teacher had omitted for him."

Here the description of another child of three and a half who was also an undisciplined child. The teacher despaired of being able to bring her to collective order with other children.

While they were in despair of being able to lead her to a form of discipline, the child began to apply herself to work, to an inset to a frame. Then while the teacher was delighted because of this, which was the hope of a future discipline, she continued to work, and left off disturbing her companions. and this is not unnatural because the child concentrates upon an exercise and interests himself in this work, and feels something great evolve within him that satisfies him, he enters a higher plane and disdains inferior ones, just as we find ourselves when for instance we wish to educate the lower classes and moralize the lower classes or when we wish to moralize the higher classes of society we certainly cannot go and preach that morality we wish to inculcate in them , and bring them to a discipline which would be the discipline of the perfect society; but undoubtedly one way of drawing , for example, the poor from vice which represents the lower and only satisfaction at their disposition, to draw them from this the most simple thing to do, the most direct, is that of giving them higher satisfactions.

Thus, again , the members of the upper classes depart from the regions of order which is the ideal order, because they do not work. The best way of causing them to enter into order is that of removing them from the state of idle ness,, and so on .

Something similar although much deeper is the establishment of discipline in these children, who, almost as soon as they felt a direct and great interest which puts the intimate potential

pieces of their spirits into relation with something external,, concentrate upon it,, and all that which existed at first, that existed in the form of chaos,, of disorder,, of superficiality,, fall, becomes forgotten, and this organism begins to construct itself,, which undoubtedly exists potentially,, in its finality,, and in its laws, in the inner life of the child.

Finally,, since to-day I am using the work of others,, I will end by citing some interesting diagrams which,, with her long experience, Signorina Maccheroni has derived from observations upon the establishment of discipline in the numerous schools which she has directed in different cities in Italy.. Signorina Maccheroni has made herself this guide which may be useful to others,, this Signorina being the most expert of all up to the present..

She defines a kind of line which may be conceived to represent the state of repose of the child, in which the child does neither good nor bad.. He does not have crises of work, but at the same time does not disturb the others.. It would be a line of demarcation, marking the passage of the child from the disordered child who acts destructively, to the phenomenon of the child who begins to order himself.

Let us consider independently of the individual all the facts of work which evolves,, for example during a morning at school.. There are different kinds of children, for example a disordered type.. While waiting to enter the class he moves about and makes some action disturbing to the collectivity? After a moment of quietness the child takes a frame, for example does some lacing.. He remains at it a short time,, his attention is still unstable, and he rapidly descends into the region of disorder, going lower than before.. Then he returns again to work; does a work more difficult than at first, for example, the plane insets. Then takes an easier work, for example, frames. Finally remains a short time in repose, and in the recreation is again disordered.. This child's life is still more in the lower field than in the higher.. He has applied himself deeply to anything.. In fact he has done this then that,, then that, remaining always low in the field of activities in which he would have been able to produce much.

Let us see the type of work of a child who is ordered not in the first beginnings in which he does a special work but after he is already ordered. It is interesting to see to what work the child

applies himself.. There begins a first moment in which he does nothing then he takes an exercise, for example the colours; persists for some time at this work which is easy, then takes another work for example composes words. This work is much more difficult. Let us suppose the first work, for example is from nine to half past nine in general, the second from half past nine to half past ten in the morning..

This diagram is not for one child only ; but in a class already ordered, it applies to the greater number of the children.. At this point the children stop working for a certain time, and one would think that the children were tired.. Experience however has shown us this; that if, profiting by this movement of suspension of work we intervene to stop work altogether, thinking that this suspension is a sign of tiredness, we find that the children are all agitated. Instead, leaving them free, the children immediately afterwards set themselves to work and ascend in a much more difficult work, as though they were out of breath in an ascent, and in this moment of repose take impetus having within themselves the need of a much more complex work, interrupting which here if the child is forced to a kind of repose, he is agitated..

For example, he does some addition, here is something more difficult.. After this he really leaves off working, but is perfectly calm.. He has different tendencies; takes a very easy work, as for example lacing or else contemplates the work he has done, takes pleasure in it, himself forgoes and makes confidences to the teacher. When he has finished this cycle the child is satisfied and has all the appearance of a child who has rested instead of one who worked.. Stopping work at this point all the class is agitated, while after this great work in addition the class is completely calm..

Following with a certain guide of this kind, the activities of the child in a morning's work, we can follow the spontaneous phenomena of work in the child and study the differences between one child and another. And as in all these occupations there is a graduation, for example, there primitive extremely simple exercises, such as buttoning, and there are more difficult ones up to arithmetical calculation which require abstraction.

We can therefore see from this curve what grade of work the child takes. In general we see that in the first period and the last for a certain time, the children take very simple exercises. Between these they take those that are much more difficult for them. But it happens at a certain time that these exercises that are difficult at first one day become easy. And then

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we have for instance, that in a more advanced period, the child instead of coming at this line -- beginning at this line in a kind of repose, then with an ascent, then another ascent -- as soon as he comes to school says: "I want the numbers, I want to write." And therefore begins with that higher work which represented at first the brief period of an ascent of work, of a period of maximum activity. And here, if the child begins for example with the composition of words and counting or with those which were the most difficult exercises, then chooses higher occupations still, such as reading etc., we may consider in a way that the line of repose of the child is raised to a higher level. As soon as he comes, he does this work as repose which was formerly an elevated work, and then he mounts still further.

In this way the stages of development of the child could be determined, especially if these studies were made according to the age of the child, observing the time that the child takes to pass from one level to the other, determining this level etc. It is possible to make a precise study of the development of the child, which study as you see however, can be begun by us at this moment but cannot be carried out by us, because as you well know, when it is a question of making precise experiments on a large scale, it is first necessary to establish the method and then multiply the researches.

It is therefore for you to be the first, practising yourselves for example, during these four months in following this order of ideas, and learning as far as possible to make your observations precise; it will be you who with your colleagues who have already begun, will then be able by the experiences of each to determine these data, and in this way something definite and exact will be continually increasing construction as occurs in all the experimental sciences. This is why, when an experimental study is to be made, one does not come to learn something, to take something, but one comes to learn to give something. Because experimental sciences never come from an individual, but from the collective of individuals, from individuals who collaborate along special lines. And that which must unite these individuals is not the contents of their mind but the method which they have acquired, and that which is necessary to develop is to prepare persons in the method of this science, not in its content.

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Secture D

For private circulation among the members of the class only:

This version of Dr. Montessori's lecture, being the translation by Mr. Claremont, of the report taken down viva voce, Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report for the personal use of members of the class only.

Lecture of March 9th., 1914.

Before you enter upon this brief period of practical work which I have planned for the next 8 days, I wish again to say something in general about the observation of the children, and particularly about the physical observation, at which we gave a rapid glance in last lesson as concerns a certain technique and a certain order in taking measurements.

I wish to-day, not only to repeat with a certain order and precision, that at which I hinted in passing, but which to give you an interest in these physical researches, to initiate that which will become in you the conviction of the everyday practical utility, the profound utility, as educators, of the knowledge of the physical development of the child.

Meanwhile, to initiate you in taking the measurements and consulting the tables of comparison, enables you to commence a work of observation, for observation does not consist merely in looking, otherwise all would be observers, whereas, some are observers and others are not.

What are the scientists who can observe? They are those who make a certain limitation in their observations, who do not scatter these observations without rule, but who limit them, just as for example, artists keep their drawings within certain determined limits of form and it is these who produce pictures that are pleasing.

New limits to observation; these are what are needed to initiate observation itself. Limits in this are formed, for example, by instruments of precision; the technique in the use of these instruments, the way in which they must be used, as also the way of adjusting the subject to the instruments. We must also know the limits given by the figures in the tables, the limits of growth etc.

Thus no individual can begin directly with a certain facility to be an observer; if some one else has not first begun to observe, leaving a contribution which serves as a guide to further observation.

Thus, for example, our method of education will be able to found an experimental science, when we, who are the first to work on these lines shall have established those determined limits which will enable others to prosecute the observation.

These tables that I give for the study of the children represent a guide of this kind. As regards the psychic observations of the children as a whole great established principles do not exist in this matter, because the science is at its beginning. As regards the physical observations however, we already have vast contributions, because more or less along the lines of which we now seek to follow for the study of the natural development of the psychic life, along these same lines scientists have already for a long time conducted their researches on the physical development. Hence we have sufficient guidance and material to enable us without delay to apply a positive contribution of sciences, a thing which is undoubtedly of great assistance, since if we lack the conception of life as a whole we can never suppose ourselves able to observe life completely.

For this reason, if there has been a development in the studies of the physical life, this development must unquestionably enter our work, and that which I wish to do to-day is not to commence to tell you the result of these researches, but I repeat, only to leave you the conviction that these researches, including the physical, be they even of the most general kind - such as the weight of the body, the total height - really represent an essential contribution for us, that guides us in the understanding of infant individuality.

You will perhaps wonder when I say that the guidance which we have from these physical studies gives us a great light in the understanding of the moral life of the children, upon all the moral principles which inform the school, and upon all the standards which we use in the education and judging of children.

It seems strange that taking the height and weight can give a guide for judgement of a moral order, but this fact which seems contradictory ought not really to strike us so, if we believe that life is a whole. But leaving this theoretical principle, which thus treated in itself can only remain doubtful, I wish to give you some account of studies that have been made in order to convince you that this is really true.

These judgements that we make upon the child in the old type of school according to the methods that we are now trying to supersede, are not based upon a real knowledge of the child. For instance, we say that some children are good and some are bad; or we say that some are studious, and others are not studious, that some children are so meritorious that

they need not take the school examinations, while others are absolutely so far from the possibility of advancing that we entirely exclude them from the examinations: we say that other children are diligent and very intelligent and others not, and so on.

These standards are a basis of the moral judgements that we pass in the school and they must be deeply felt by one who wishes to obtain a scientific conception of the actual state of things.

Let us see what relations there are between these criterions, which are, are they not, almost completely of a moral order - since we say that the ^{child} dull who studies is meritorious - and the physical measurement. to find a relation between these two things is not impossible. You saw last time when we were together and measured certain children, that some of these children had measurements which perfectly corresponded to normality. Others however, did not have these measurements corresponding to normality.

Suppose that instead of one or two children we had a great number in a large class. We can execute the same researches, and find for example, which are the children of the class which have those normal measurements and which not; which are the children who precisely correspond to the normal and which are the furthest away from it.

Given these measurements, what is the physical conception that we make? That some children have developed well, in the best way possible, they have succeeded in that which is their real and profound mission, that is of attaining ~~determined~~ limits of life; for truly our mission is not that of reaching a point at which another has arrived, but the profundity of our mission is that of attaining our own ultimate destiny. Undoubtedly the child who can attain the average measurements is a child who has obeyed that biological mission which he had within him, and had done well to reach those measurements which were possible for him.

How many social institutes are there not, which have this aim? Well then, this is a great goal and the individual who reaches it by himself is worthy of observation, of being considered in the totality of his characteristics. Vice versa, he who does not reach these medium measurements is a person unable to arrive at that destiny which should be the normal destiny of men.

In fewer words, we may say that some children are more than what we call healthy, they have attained the triumph of life. Other children however, have not been able to develop so well. Now, since these children do not only develop, but do many other things, we may also make researches of another kind upon these same children.

For example, I suggested to one of my students in anthropology to consider which were the principal characteristics of children in school who had medium measurements, and the principal of these characteristics were found to be nearly uniform; these children who had average

measurements were lighthearted, often vivacious, what is called liveliness in school which is often accompanied by a certain indiscipline. They were also negligent as regards work.

I then induced her to see instead what were the characteristics of the most industrious. They were as follows. The children had a low ponderal index, that is, they had a weight that was too low in proportion to their height. They were therefore like those suffering from denutrition who had a muscular strength inferior to those who had average measurements. So that the studious children must have been those persons, who in reality were impoverishing their organism. The children who had no medical measurements were persons who, (under these conditions) had defended themselves from this cause of physical impoverishments without any one having put them on their guard, but by inner force they had defended themselves. There had arisen in them a kind of struggle for existence.

These bodies that had in them the potential power of succeeding in their biological mission, belonged to individuals who also had in themselves this kind of instinct to struggle for existence. Hence no one could influence them. Neither vanity nor prizes, nor the ease with which they could perhaps do what others weaker than they could achieve in the school. But that which these organisms feel deeply is their salvation. Hence they are negligent, however light hearted, for it seems almost as though they are conscious of the inutility of these vanities of the world that lead men to perdition.

In this case, these children weak in themselves, had a great and admirable moral force, for they were doing a great human work, that of saving their own existence. And is not this our aim, to save life?

Well then, this is what these children do. If therefore we judge them negligent or bad, we undoubtedly make a superficial judgement, which is not only a judgement, but if we become conscientious is a crime, since it is as though we condemn those who save themselves and exalt those who are lost, and we show these to those persons who save themselves, as though it were something desirable for them, that is the way of perdition.

Such a simple observation is enough to show us that our moral judgements may receive considerable help from scientific observation, even if this scientific observation is limited to the physical part, and in the physical part to a single measurement, to the most superficial observation, merely to measure the height of the child, to know whether he has high spirits or not, to know whether he is negligent or diligent.

Because, if with positive, methodical observation we can touch the truth that is in life, even with the point of a pin, this touch is

enough, like an electric button, which sets on the light, for us to see the great panorama which takes us further than we think.

We had an example of this in the two children who were here the other day. One of the children had normal measurements, he was the only child who had normal measurements. The other child, instead, had measurements below the average. Observing their behaviour, these children were very similar to one another. You saw that they sat quietly working so as not to waste time. They had entered a kind of normal psychic life, since they had begun that work which is the work of inner development, of auto-education, the construction of themselves, and in which these individuals cannot lose time. You saw that these two children might have laughed with one another, could have talked together, and instead they choose an exercise and worked while we talked. Also, when they were called to be measured, you saw with what wonderful obedience they came. A hint was sufficient for these children to leave their work and move as though fascinated, whereas they were not fascinated by anyone; it was their inner fascination to be able to obey, and feel that they could work and leave their work, to leave what they desired and to do what others wished, just as he who is very clever takes a great pleasure in showing what he knows. Thus these children came indifferently, the one or the other. This had become a common characteristic. And you saw with what exactness the children placed themselves upon the instruments for measurement. It was enough merely to whisper a small hint in their ear to modify their position, and they obeyed with an exactness that showed what control they have over their smallest movements. Let us remember that ordinary children of that age left to themselves, walk upsetting articles of furniture, almost without being aware of it, whereas these can obey a command to move a portion of their head by a centimetre. And as soon as they had obeyed so perfectly, when they understood that they were no longer needed, without any command they returned to their work. After they had returned to their work again, receiving another whisper, they left this work, and obeyed with their "millimetrical" movements this weak imperceptible command which came to them.

Now from these facts we are not able to distinguish a difference in activity between these two children so profoundly different from the point of view of physical development. But one who has observed these children during their psychic development, that is, before they became ordered and on the path which they followed to thus order themselves on the psychic side, has really found profound differences between these two children, and these differences are certainly very interesting for us.

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The child who had average measurements seemed for a long time to be rebellious and violent, and also in his home he was considered as a violent child, because he tended to obtain from the reality about him that which he needed. In fact, consider what was the violence of the child in his home. He is a child of a very poor family. His violence consisted in having at any cost, his bread. His father told him that he had none, but he insisted, he would have his bread. When he came to school his father had to give him either bread or pennies, otherwise he rebelled, he would never submit to his father till he had what he wanted; and in fact, in a state of extreme poverty he has thus succeeded, with a struggle that is truly heroic for a little child, in attaining his normal proportions. These tendencies of the child to follow the laws of his life which desired to triumph show themselves in the whole of his life, also in his psychic aspect in the psychic phenomena that he manifested. Thus he was one of the children who sought at first to appropriate the work of others, because he wished to enjoy what they were enjoying.

Now in this case, such a child is the individual who is able, par excellence, to find for himself the right road, and with a little help to triumph above all. What should an educator do? Help him! It is very simple! In the case, for example, of the physical life, give him the bread which he asks; with the same with the psychic life give him the other bread that he asks with the same violence. The same naughtiness which the father found at home, the teacher might at school, if for example the child had been placed with a teacher who was not initiated in this kind of observation. To make such a child good, it was enough to feed him. And it is marvellous how a psychic nourishment, for example, this possibility of disciplining himself in the school as he wished in order to grow in his inner life, as though gave him a light, corrected him in all his tendencies as a violent person who would conquer almost by force, and calmed him; at school he is undoubtedly quieted, he is given the possibility of acquiring the great refinements of his abilities. For example, he has become gentle with his companions, has shown himself one of the most affectionate of persons, and is also full of dignity. In fact, when they began to teach the children at the school how to eat their lunch with propriety, he sometimes found himself sitting near rich children who had plates of meat, while he had nothing but the bread which he had acquired at home. He prepared, and ate the bread with slowness and dignity, just as the others ate their plates of meat. He took just as long as the others and ate it with the same dignity. He did not want a great

deal, he wanted his bread, wanted what was necessary, and so enjoyed his food, that he not only succeeded in reaching the normal measurement in his height, but in his psychic life also attained dignity in all his external manifestations.

The other child; instead, had all those appearances that in an ordinary school would cause the child to be defined as good. For he submitted very easily, he did not want to take by force something he had need of but adapted himself to this kind of unconscious sacrifice at his age. He is certainly possessed of an inferior biological potentiality, and accommodates himself to this inferior biological potentiality. If there is not someone to really help him, so that he is nourished and has those conditions which bring him to a betterment of his physical development, he will not do anything. He will submit with resignation to his body going towards poverty, perhaps towards death.

We call this child good, and hold him up as an example to the others whom we call not good. The child had shown at first what would represent one of the greatest defects among school children, that of telling the teacher everything that his companions did; but he also told her anything that he had done wrong himself. Not only this, but to everything which presented itself, the child asked "Is this good or bad?" then reflected "it does not seem good to me," and asked the teacher "Is this really good or bad?" At last, the teacher observing him, became aware that he did not tell her tales of his companions to do them harm, but because he was filled with a moral pre-occupation and could not see any act without asking if it was good or bad.

So that this good child had at first a single defect, which was that of telling malevolent tales of his companions. As a matter of fact he was a child who was going to perdition in that which we consider good. But he really had a great quality, that sensitive conscience which gave him continual problems and continually points of difficulty, without minding whether they concerned himself or others; a true innate cult of moral questions, and we said this child who is so good has a grave defect of telling tales of his companions.

These simple conceptions are enough when hardly touched upon, to show us, if nothing else, that we must greatly modify some old opinions that have become dangerous prejudices for a modern teacher. It is the methodical study of human life that can correct us in our inability and

give us this great illumination.

The principles which we can study to-day upon this order of things are all general; they may serve us, however, to pass to the study of particulars, as for example, as has been the case with these two children. The general judgements that we can make in this connection, refer now to the environment in which the children live, and now to the measurements of the body. For this reason, I have in these charts, data, some of which refer to the enquiries to be made concerning the parents and the environment in which the children live, and others to the measurements of the children.

One of the most modern observations and most prolific of consequences, have been in recent times the researches upon man, first, and then upon children in the school, with the regard to the two statures which you saw measured the other day, the height standing and the height sitting. These two statures must be considered in their relation to one another. They must be taken in relation with one another, especially when we are studying children, because during the growth of the child his body not only increases in size, but the proportions between the various parts of the body change. These two facts are different, because when the child augments the proportions of his body, he grows; but when he changes the relations between them, he does not reach a dimension, but attains a form, and the form gained is beauty. Hence the child not only has to grow, but must also acquire a beautiful form, and what is a defect in the growth in the child is not only a defect ultimately in man, but also a defect in beauty. These two measurements are fundamental, since to the relation between these two measurements are attached many deductions with regard to the whole of the body.

You know that in growing children, the trunk diminishes in length in relation to the total height. Little children have their lower limbs shorter in comparison with a man who is fully grown. This is a general law; but modern researches are above all tending to show that there are great individual differences in these proportions. That is, that persons of the same age, and in the same period of growth, adults, other conditions being equal of sex and race, can differ profoundly in these relationships; can have, for example, the trunk very developed in relation to the lower limbs, and vice versa.

These types of different stature have also received names in

anthropology. These are called macroscelous who have very long legs, and brachiscelous those who have short legs. The macroscelous are weak in comparison with the brachiscelous, since in fact, the stature of their body is composed of long limbs and little trunk.

Imagine two people of the same height one of whom has very long legs in comparison with the other. These two persons are evidently unequal to one another as regards physiological constitution, hence also as regards physical resistance. In fact, macroscelous persons ~~become~~ weak because they have the bust little developed; and on the contrary, those who have short legs are stronger, because their bust which contains all the organs of physiological life is more developed. The strongest of all is he who has normal medical measurements. Who does not have normal measurements already follows an erring path of development. However, since absolute perfection is hardly ever reached, we are all persons who err; in physique, as in morality, we are all defective, and hence one might say that more than the study of beauty and in general, more than the study of beauty in all individuals in course of growth, we ought to study defects, and see which are serious and which not.

Individuals who have in their stature an absolute prevalence of the lower limbs, are individuals predisposed to pulmonary tuberculosis to anaemia; individuals who have very short legs are apparently more robust, but are likely however, to have certain illnesses, such as diseases of the heart. One might say then, that the people who deviate too much from that mean which is the unattainable perfection have in themselves mortal faults, for they are in peril of death. Those instead, who err little and approach the medical measurements, they also are defective; for no one is perfect.

It is a question, therefore, of knowing if we have faults which life can conquer and correct or if we have mortal faults. This preoccupation which was, for example, the moral preoccupation of medieval times, to see whether people had mortal faults or not, becomes the preoccupation of the twentieth century. These faults are understood, however, in an extremely wide sense, beginning with the body.

We have to observe in the children what kind of defects the children have, if these attain the proportion of a peril to life, or are simply the defects of a man who is not ideal.

Adult individuals who are predisposed by their constitution either to tuberculosis or diseases of the heart, are at one time children who come to our schools, who also in the age of childhood, present these deviations from the normal measurements that are presented later by the adults. The teacher must therefore recognise these forms. And how? Very simply, for it is enough to measure the height standing and the height sitting and make the little calculation of the ratio, and consult the medium figures, for them to at once arrive at a conception of their pupils.

These measures have been clearly illustrated in schools, where in doing gymnastics some children became ill. Naturally at first, they set the same gymnastics alike to macroscelous and brachiscelous children. For example, they made children run races requiring resistance whose bodies were not sufficiently developed, and races requiring agility for those who had extremely heavy bodies; and this without discernment, but considering only the final success, for which the children had first to run a race of resistance and then races of agility. To-day instead, the wise teacher must take these differences into great consideration, knowing how to interpret them.

The gymnastics that are so scientifically developed in Sweden tend to correct even the small deviations from normality, which deviations from normality come to represent analogous ones in the internal organs, which cause predispositions to certain maladies, which are not serious as those which I have indicated, and are curable, and into which we enter and issue from, without knowing why.

And also the psychic conditions of these individuals are in some way different. When, therefore, we have to study children from this point of view, we must record these observations, so that they may guide us in observing the behaviour of the children, and may guide us in the interpretation of their reactions, tending to save or to lose their lives. Thus our judgements of these children will be subject to a positive knowledge.

Other differences are then noted which may be said to be of a social order, for example, the growth of stature in its totality, one might say, is related to the nutrition of the child. The child really undernourished cannot attain the height that he would have as the biological

destiny of his life. Most remarkable differences in development have been found between poor children and rich.

For example, here is a table of mine which shows the figures of the growth of stature of rich children and poor children. Poor children are nearly 4 centimetres less in comparison with the height of rich children.

When a child is undernourished to the point of losing 4 centimetres of his height, this child is undoubtedly weaker than others. Having to judge of the good intentions of school children we undoubtedly cannot escape from these studies. No action could be more immoral than that of loading with punishments the individuals so profoundly punished by society, that they have to leave part of their stature by the wayside.

And it even happens in the school that we sometimes oppress children who are already oppressed by society; and then vice versa, we have, in consistency, to exalt those who are fortunate in their life outside. Here is the great importance that we unite with the enquiries of a social nature and these physical observations.

Studies upon this subject multiply, and it is well for the modern teacher to know them. I also have made researches in this direction; I once studied two very superficial data of research; what kind of house the families lived in of the children who were considered first in the class, the prizewinners, those who were held up as models; and on the other hand how the children lived at home who were considered the last in the class, and also what food they brought, what nourishments these children had.

I found that for the most part the children who were considered first in the class had a habitation sufficiently decent, etc., and had people who considered them and also sufficient food. Instead, the children who were considered the last in the class had habitations which I had never supposed to be possible. There were houses, for example, where eleven people slept in a little room. The children did not have sufficient nutrition, and it was these who without external aid, not having a sufficient quantity of air to breathe, being in such deplorable conditions of life also in the schools betrayed their state of misery. One might say that here were a class of abandoned innocents, who, however, were not abandoned entirely, because society had given them a place of reunion in

in charge of intelligent persons who had the high mission of helping them to raise themselves. What did society do for these individuals in the only place which could have been the place of their salvation? The answer I found in the school, and it was this, they were simply judged the last in the class. Researches that have been made in Rome by a school inspector reveal more or less the same facts; children were considered who were not admitted to the examinations, and others who passed without examinations. The children not admitted to the examinations were in extremely inferior social conditions compared to those who passed without examination.

Now in making anthropological studies upon these children, the last in the class and the first in the class, those who passed without examination and those who were not admitted to the examination, I found a great quantity of measurements concerning the collective development of the body, such as the weight, stature, ponderal index specially varying in this sense, that the children who are in inferior social conditions are also children who are in a condition of physiological inferiority, and that these are also in a level of scholastic inferiority, to which scholastic inferiority the teacher responds with a judgement, thinking with this to be moral.

In fact, the teacher wishes to be just and does not prepare herself to be just; while to be a just person is one of the things most difficult of attainment in human wisdom. We know that one may be human, one may be compassionate and yet not just; to be just is something difficult, profound, religious. Science can perhaps prepare us to become just, but the teacher who in good faith believes herself to be just what does she do to-day? She judges thus, "I do not wish to be moved by sympathy for anyone, for he who allows himself to be moved by sympathy ends by becoming unjust; but with mathematical precision I correspond with reward or punishment to every virtue, and to every vice." This justice which she dispenses, corresponds as a precise balance corresponds to the weight. But this human justice cannot be the justice of the scales; no one is more unjust than this. For in substance, what does this just person do? She really measures; she knows it subconsciously and really measures. But what does she measure? She measures without knowing it,

the different conditions of her pupils. Really she has measured which children were fed and which were undernourished, which were badly off and which well off as regards social conditions. Very often the study of the just teacher, this just measurement of the teacher, is the ascertainment of facts, but it is not justice. It would be much better if instead of ascertaining them thus, this teacher should ascertain these facts by science that she should make enquiries and measurements upon her scholars, and so understand her scholars. Which are underfed, which are in inferior social conditions, which have defects of growth, which have average measurements.

The teacher who would make the first steps upon the way of justice must begin in this way to judge her pupils. Afterwards may come justice, and this will be the true justice. Then will happen that which was foretold "There will be great surprises in the time of justice, for you will see that the last shall be first and the first last." The pointers will be reversed. You who think yourselves virtuous will find that you have committed crimes.

Thus the conscience must be convulsed, of the new teacher who would enter these visions. Her justice will be truly objective; she will suffer from antipathy but it will be given by just measurements.

It is evident that the reform of the school which thinks of providing the child with food, of also helping the family in which he grows, which tends to give better hygienic conditions, and extends to the point of desiring inner liberty for the child, this school in itself will be just without need of the teacher egoistically and with little merit concerning herself to be so. Then she will be the collaboration of this justice which must come from science.

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*Montessori Training Course*  
*Lecture 1*

This version of Dr Montessori's lectures being the translation by Mr. Claremont of the report taken down viva voce, Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorized for the personal use of the members of the class.

Lesson given March 23rd 1914

Now and in future Mondays we shall hold a series of technical lessons.. To-day I wish to continue my last lesson of Friday ..

I said that we can have a special preparation, a preparation of special activities, which lead to the peculiar paths of experimental research, and in this I have indicated these attitudes, that come as a whole to form a particular spirit, the spirit of the scientist, the spirit of a person who above all is patient..

A scientific preparation thus understood is vastly different from the ordinary preparation of the old time student, who had rather to assimilate the content derived from the study of others. I suggested this fact that positive science, which needs this special preparation in its men of culture, is to-day responsible for all that is characteristic of civilization: the great miracle of the transformation of the environment.. and we enjoy to-day the effects of these scientific researches, we live in a better world than that of the past a world replete with commodities, more elevated also morally, vaster, a life of miracles.. We enjoy the effects of all this, but we take no part in its causes. We are not introduced into the causes of it, we are that multitude of people to whom great gifts are regaled, gifts of science elaborated by special persons, but we do not enter into and form part of the causes of all this.. The special preparation of these scientists is not the preparation of these enjoyers of the work of others, and far less does education follow this trend, which is precisely that which should set men of different type upon one path or another.

I said this: I wish to insist upon certain points that are fundamental, to emphasise the fact of this road, that is a road of patience and a road of great wisdom.. I am well aware that is useless merely to point out these facts, and that this is not the way to prepare people to educate men in a new path, but what else can I do than g

a few brief theoretical hints in a small course; However, I can say, that the new teacher, according to me should be prepared not by listening to a person who speaks of science but should be prepared by practically touching the method of experimental science, not to assimilate the immense content of all the science of the day, which would be impossible, and as you know there are specialists in the smallest parts of science who give their whole lives to that part; but merely to touch the methods, be convinced, understand by experiment what this patient study is, rigorous and thoughtful that has to accompany every smallest step of the progress of science.

Thus for example, I would have the teachers do exercises in physics, exercises in chemistry, exercises in anatomy, not so that they should become physicists or chemists or biologists, but so that they should have had a touch of this, of this richness which is not assimilated by means of the intelligence, but which are assimilated by taking part in these activities. To live a little in this, steep oneself in this; this is what is needed for a basic preparation. As for example the religious say not know the history of Christ but to immerse oneself in Christ, this is what makes Christians. Thus in science, it not to know what scientists do, but, be it only for an instant, to steep oneself in this; this what would prepare that activity of the spirit which is necessary for the new teacher.

It would be enough for example to experience the, most simple things; when the physicist simple wishes to see what a surface is horizontal what could be more simple than this? But you should see how a physicist levels an instrument, with what patience, with what precision he has to turn the screws to observe the movements of the liquid that shows the level, with what thought he has to manage all this before he can say, after a long work, half an hour perhaps of attempts before he can say this surface is horizontal.

Thus for example when the physicist keeps let us say a determined length in preservation, and has to maintain for example, a 1 metre intact, that is the standard for establishing the length of metres that are in common use in the world, this metre has to be of metal, so that it shall not consume with time; and since, being of metal, it may vary in length with the temperature it has to be kept at a determined temperature and all these precautions have to be observed solely for this fact which is so simple that of keeping at its absolute rigorous length.



~~These little things are enough to give an idea of~~  
what the affirmation of a reality with certainty means, and how slow  
and careful is the journey on this road, but also how secure it is.

~~When for example~~ the chemist wishes to take the  
reaction of a very sensitive substance which he has in a flask, he  
empties this flask till nothing remains, then fills it with a liquid  
makes the reaction and finds that there is a strong reaction of this  
substance; hence, this substance which appeared to be no longer there is  
still there; and then he empties the tube and again fills it with water  
makes the reaction, and still finds traces of the substance, then pours  
out two or three drops and in these again finds traces of the sensitive  
substance.. One comes thus to have an idea of what it means to trans-  
fer a substance from one vessel to another, and how difficult it is  
to say that a substance is completely transferred from one environment  
to another.

To feel these differences between the great efforts  
made by the ancients-- who could do other than assimilate the work of  
others, who consumed their cerebral forces to the point of madness in  
the accumulation of this content without ever being able to produce  
anything in the world, leaving the world as it was, because they did  
nothing but take in what was known and already existed - to feel the  
differences between this and this other way of the people who advance  
slowly, one might say without effort, because they remain half hours  
to see if a metre is of exact length etc, but who, nevertheless,  
rigorously follow in a way that is undoubtedly paved with truth, these  
persons with little effort can produce the new, that which has not yet  
been known, and which can make a contribution, or bring a revolution  
or work a miracle.

This is to enter into positive science.. All the  
methods of positive science, I repeat, would be useful, if but hardly  
touched upon, to form the spirit of the new educator, but above all  
the method of the biological sciences those that is, which study life  
for the educator must come into contact with the most elevated being  
living, and to have by way of those methods that can lead to the truth.  
In the inferior beings cannot be other than useful to the educator who  
must then deal with those superior. Biologists are concerned with life  
~~of the plants and animals.~~  
of the plants and animals.

There are two kinds of method in biology, one might

basically anatomical and the other purely biological. In the anatomical direction, life is analysed, in the purely biological life is studied in its totality. It is this purely biological direction that must be a basis for us.

The studies, however, of positive sciences that have been made to-day upon man, are all anatomical; for example, anatomy, which is the analysis of the body, physiology that may be called an analysis of the functions of the body, and experimental psychology which may be said to be an analysis of the psychophysical activities they are all biological sciences which man apart at a time.

Anatomy has gone very deep and the human body in its form--at least we think so--has no more mysteries. But the same cannot be said of physiology, for it is more difficult to analyse the functions in as much as we find ourselves confronted by individuals who function as a whole and are not faced with organs that function separately so that we can actually follow them one by one. And experimental psychology also is more than incomplete, it is barely a child.

It is true enough that there is no need of these complete individuals to give the content of this science which anatomy easily studies from dead bodies, and it is this that has given the possibility of deriving all the content of anatomy. For the study of physiology the vivisection of animals has been necessary in order to be able to study, part by part the working of the various organs, to find out for example how the intestines act, what are the functions of the brain etc.. If anatomy can evolve from the researches complete and without errors, physiology cannot arise from these researches complete and without mistakes, and far less can experimental psychology because physiology the functioning of an organ, cannot exist as such in as much as this organ as such does not exist, but exists as forming part of a body which functions as a whole.

Of this we have many proofs that may be interesting for those beginning to study; for example the famous experiment that was made in Russia on digestion by means of vivisection of dogs. It was known in physiology that the alimentary bolus, when it enters the stomach, mechanically produces the secretion of the gastric juices;

that is, it is the alimentary bolus that produces the secretion of the gastric juices. Here is a discovery of physiology. In this case it is the stomach which acts in relation to its intestines and as an organ in itself.

Well then this experiment was made. To cut the oesophagus of the dog and bring it to the exterior, then make an opening in the stomach. The dog was given something to eat which it masticated, forming the bolus which issued from the oesophagus without entering the stomach; but nevertheless the secretion of the gastric juices took place in the stomach. Therefore the secretion in the stomach was not produced mechanically, it was a psychic fact, it was the dog's belief in having eaten and its certainty that the bolus had gone into its stomach. In the inferior animals the psychic fact can modify the functions of the intestines of the body, and physiology, like the functions of the intestines, cannot exist if we forget the whole of the body. And this which is seen in a simple example one may see in all cases and finally in this fact, that physiology has brought no great contribution to science because it is uncertain, partial and abstract, inasmuch as it is not truth. It is not that it does not really exist in itself. The stomach and nervous system exist it is true, but how do they exist? As forming parts of the body. Anatomically the hand does not exist, there exists a man who has a hand; the stomach anatomically does not exist and so much the less can exist its functions, but there exists an individual who has a stomach.

And so much more again if we analyse the psychic facts separately one from the other. When, for instance, in a famous test of the attention, we say to various subjects, "take this book and cancel all the A's that you find. we note the time which the individual takes to do this and then judge. We say the person who has cancelled all the A's without forgetting any and in a very short time is more intelligent than that other who forgot many A's and took a long time. His attention can be certainly fixed upon a determined work; but if the person who had to cancel the A's at that moment had some personal pre-occupation or was in a moment of inspiration, forgot all the A's, he would be judged very inferior to others who had not forgotten any, so

so difficult is it to anatomize what is an immense total functioning in itself..

We may say that the study of man in his totality is absent, does not exist in the series of the sciences. There exists only a triple and complicated anatomy of man and the anatomical direction can never be productive of much. Infact what have anatomy and physiology given us. They have given us a contribution that has greatly advanced medicine and has, one might say, determined a rational medicine, symptomatic, which refers to the local symptoms or else to the local treatment of the internal organs.. For example, it has given a great value and procured a great progress in surgery, for anatomy and knowing the functions of those determined organs which were disordered permitted us to reach the evil with the anatomical knife and thus liberate the organism. It was found up to what point one could operate, and here we see there was a progress in the demolition of the body, but nothing or almost nothing to aid life.. These sciences have helped us to perfect ourselves in the ability to wound and demolish,, certainly to avoid illness and fight against evils. A certain defence has been possible, but this human life, which ought to be aided in its development, is still something far from us invisible, that is not considered by science, on the contrary, it is forgotten as though it did not exist, and sometimes it may even seem a prejudice of science to contemplate man in his totality..

In fact what has given a great progress to medicine?? Bacteriology, because it has revealed the causes the causes of disease; more, without bacteriology neither would surgery have come from anatomy, because without the disinfectives that arose as a result of bacteriology we should be able not to be able to make aggressions on the body with impunity.. It has been bacteriology that has permitted war on a large scale against disease which has allowed the battle against mortality, which has raised the figures for average human life and has laid the basis of hygiene..

Now what is bacteriology?? Bacteriology is the study of a being, a microbe; it studies life synthetically, though it be that the of the being opposite to man in the biological scale. The anatomical trend has not brought that progress, which has been brought

instead by the purely biological direction, that is, which studies life as a whole, though it be upon the microbe. For it is by studying life as a whole that we can grasp those truths that illuminate and guide us in the progress which concerns life. Because we speak of life and in science we have spoken up till to-day, up till yesterday of life in the abstract, content with this word without going more deeply into the fact. The fact evidently does not exist in itself. Life does not exist by itself, there exist living individuals and outside living individuals life does not exist. He who studies himself to be studying life and the phenomena of life in a portion of the individual, which portion does not live by itself, is not studying life. One studies life only when studying the living individual. In fact, where is life if not in the individuals who live, be it even the most simple? Only if they are alive can one find life.

For example we should not say that milk is living, but milk exists because there has been an animal that has produced it, and this animal who has produced it is living. Where could come milk? As you know, the illusory theories, that we could by chemical synthesis make living substances or substances derived from life have been exploded as an absurdity. In experimental science this idea does not enter. Therefore, we must study the living individual only, and who does not study the living individual as a whole, does not study life but studies an abstraction.

We must choose, then follow, and observe better the methods of the pure biologists, those who study life as a whole, whatever be the form of life that they study.

The method in this is very simple. It consists in putting oneself into contact with the living individuals, in giving them natural conditions of life, or of artificially producing the conditions of life as similar as possible to those of nature, then to observe them live. The aim is to see what life is, what are the phenomena of life; and to see them it is necessary that the phenomena should develop and we cannot do other than observe. This is the pure biological method. All that the scientist needs to know is how to put the individual in conditions of life and to leave life free to expand, to manifest its phenomena. This is all...

True biologists are contemplaters. Scientists of the anatomical trend, instead are workers. They are always working; they take dead bodies and dissect them, take animals and make vivisections; in psychology they put the individual in a laboratory and subject him to a torment with instruments. They are always working, they produce with their work and seek to bring something out of this work of theirs. Biologists on the other hand are contemplaters, because life exists in its totality, and what have they to do ?? They must observe life develop. And that precisely which we must do with respect to life which develops, is to present no hindrance to its development and know how to observe it .

For example, what does a bacteriologist do, who certainly cannot pursue the microbe which is working within a human organism producing a disease? He must isolate the micro-organism take it to his laboratory, give it those conditions of life which are as similar as possible to the conditions of natural life of the microbe itself. The bacteriologist prepares for the microbes a nutritive substance similar to that of the human body, for example soups, gelatin, and as the body of man has a temperature of thirty seven degrees, he puts this medium of culture of the microbes in an oven kept constantly at 37 degrees. This is all . He observes what happens, waits patiently, 6 hours, 24 hours, 48 hours. Observes the time which these microbes take to give those colonial productions which are characteristic and which the bacteriologist will then study. But he meanwhile, does no more than give the conditions of life and wait for the microbes developing freely to reveal their nature. And it is then that the bacteriologist distinguishes these coloured phosphorescent specks , that are found upon this culture, and thus he comes to distinguish one microbe from another. He then observes that these microbes present certain phenomena and thus studies the causes of disease. But the method is simple to give the conditions of life and leave the beings free to develop.

Thus for example, the observers of insects, go if possible to the places where the insects live naturally. The student must often be where the insects live before sunrise to be present at their awakening; they must remain as silent as possible, so as not to disturb in the smallest way these natural of life of the insects during



their activity of the day. The sacrifice alone of getting up early, of remaining to observe without being noticed is necessary to the scientist to discover the life of the insects. This what Fabre did, the great entomologist of our times, in accumulating his five great volumes of observations upon insects. He has passed his whole life, up to eighty years observing the insects, stretched upon the ground to see what the insects did when they began to excavate their hollow, and studying them one by one in their activities creative rather than destructive. He did this, and it has been precisely this that has greatly impressed our days, because no scientist has had like him a great passion and a spirit so sublime as to lead an individual from his youth to old age always with the same passion humbly to follow this free life developing in the insects. And he has revealed so many marvelous mysteries that his five volumes are great romances formerly unknown to us, and Fabre tells of the great emotions which all his life he has felt in contemplating these wonderful phenomena of nature.

Those who have desired to study the insects in their laboratories have had to give conditions of similar in every to, the natural ones and to do that they have had first to know the natural conditions of the insects. Sometimes the scientist intervenes with violence to make discoveries, which however he could do, equally well if he had a greater spirit of self-sacrifice.

One of the researches upon insects, which, from the point of view of anecdote are most interesting was that of a French scientist, who wished to study maternal in the insects, and for this purpose watched one of the insects that least congenial to us, a spider. He found that the spider loves the sack of eggs from which are to come new spiders. This protects the sack of eggs so sedulously that she never leaves it. And if some one here we have the work of the scientist who makes experiments- damages this sack of eggs at some point, this mother immediately comes to the harm done and at once mends it. If the scientist separates this mother from her sack by force and keeps her away from it for a long time even up to 15 days, this mother perfectly remembers her sack and returns to guard it again as soon as she is free. If the scientist put another mother to this sack it was seen that

this mother, this step mother, also loved the eggs; but if the real mother came back she fled terrified and the true mother entered into possession. If then the sack of eggs was completely destroyed, this mother fell dead. It was literally, as we say in our language as if her heart had been broken. And it is strange to observe that her love was not for the eggs in themselves, and the little spiders, but for the sac; it was the sac that was the anxious care of the mother. A thing that has given great light to the theories of evolution. The existence of a most powerful force of a force in the history of evolution, a force that we call love and that is set by nature in those beings who have to protect the new species in their <sup>state</sup> of weakness; a love that is not necessarily for the actual new beings, but sufficient if it be the defence of the new beings, as in this case nature assumes the life of the new species of the spider, giving the spider love for that which protects those eggs, not for the eggs themselves.

Here began the study of maternal in nature, which then showed how it really represents the key to the existence of the species the principal factor in this existence, because the species could not defend themselves in those ages, and it is certainly not the weapons for the struggle for the struggle for existence that permit this survival it is this love that protects the species in their weakness and gives the certainty of its triumph in the future.

Here is a great principle that might be invoked also for us, a principle that comes from the study of an insect made according to the purely biological method, that is, the study of the living being in its entirety.

This therefore is the direction we must take every time that we want to study a living being, the basis for all and the same for all. Give the best, most natural means of existence and freedom to develop; and who makes the experiment must contemplate, know how to contemplate, know how to observe, act in such a way as not to disturb the phenomena of life, intervene however to help especially in the case of giving conditions of life which are not natural but which must be made similar to those of nature. This is a way very easy to define as also to follow and which we may repeat in the case of children

to be educated.

What could we do to set up a laboratory of education for children according to the experimental method of biology? Give the most perfect conditions of life, which correspond best with nature, and leave the children free to develop, contemplating them in such a way as to present no manner of obstacle to the manifestations of life. Here we have a definition.

However the thing is not so simple as when we find ourselves before inferior beings. What in that case is a fact—we can go and observe nature and reproduce similar conditions—here is a problem. Here we no longer treat of taking the facts and applying them, but of setting before ourselves a problem, and resolving it.

This is the profound difference in practice; but that does not mean that the direction should not be the same fundamentally. To set ourselves such problems is something so immense that we should be bold in saying we wished to solve them. Let us say therefore; we set ourselves this problem; and let us see up to what point we can give a contribution towards solving it., and occupy ourselves entirely for the present in determining the way and the method, to establish as far as possible the method whence to resolve this problem: for example, the problem of liberty, then the problem of the natural conditions to which many sciences have now contributed, the study of the child, hygiene etc. But the problem of liberty is a very deep subject, most difficult, most complex, and we will deal with it first in this series of theoretical lessons.

## Montessori Training Course Lecture F

For private circulation among members of the class only.

This version of Dr. Montessori's Lecture, being a translation by Mr. Claremont of the report taken down viva voce, Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorized for the personal use of members of the class.

Lecture of March 28th., 1914.

Next week I shall finally begin the orderly development of the material, at which I have hitherto only hinted, because I wish to give you some general ideas; and also, in these general ideas, the possibility of making observations, however imperfect, the true preparation not having yet been made to the end that you should not lose time in these first few days, in which naturally, the whole of the method, not having been expounded you would not have been able to do other than listen, (waiting for the moment to arrive.) In this way, instead, you can begin, though it be imperfectly, to observe; and this is the fundamental thing.

Hence it is for this reason that I have retarded entering upon the true and formal exposition of the method and subjects that I wish to treat of, until next week.

I shall give three or four lessons a week, but I do not propose to expand one part of my subject in one lesson after the other consecutively, because thus, I should have, to develop one theory at length, for instance, the theory of liberty, these certain psychological theories that I have, before coming to the practical exposition of the method. Whereas, a general idea given together with the practice has an importance.

This is why, especially in the case of such a short course, I propose to take all the parts of the subject together, like a chariot drawn by several horses, and to apportion the three lessons a week for different subjects. Thus, in a lesson of the week, I shall deal with the theoretical part, my scientific ideas and those on psychology; and on the same day of following weeks I shall pursue this subject. Instead, I shall treat in another hour, of the technical exposition of my method,

the way of giving the lesson, the explanation of the didactic materials and that day of the week, will pursue this subject.

On a third weekly hour, I will try to illustrate little by little, the biographical chart, also giving those conceptions of anthropology which are necessary, so that you will be able as soon as possible, to construct a biographical history.

Finally, I shall try to give a practical lesson in a Casa dei Bambini, showing you with the children themselves how lessons are given.

Thus, in the coming week, we commence the division of work. Together with this division of mine there will also be a division for you, since from now on, in order to make observations of the subjects more easy and possible, you will go to different schools, divided in groups. These groups will be diminished in number as far as possible; for other schools will later on be ready to be visited for didactic purposes.

Till now you have received few lessons, but instead, have been invited, rather, to observe; and observing, you have not received an actually direct guide, although you have had the indirect guide of these lessons. But while you were observing the children the children, you have received a single recommendation, you have been recommended to remain tranquil and seated, apart, and in silence; nothing else. No one was there to say "Look, observe such and such a thing, look at this other, and you will see this or that". If some one had done this, it might have been that some one of you would have understood something of the observations, observing at that moment a phenomenon interesting to you which would have been completely disturbed by such and such a person as this telling you to look at some particular thing or another. This so simple fact is repeated continually in practical life. No companion disturbs an intelligent or meditative person more than the individual who always needs to say "Look at this, notice that." Every one observes the thing they are best able to observe. Some persons are more taken by the sight of a brook and others by that of the sky; each must observe what he is best able to observe. No one can give the attitude of observation. This is an attitude which one must develop little by little, and undoubtedly one must develop in the ways that are most natural to himself; hence each

one will become so much more an observer as they are left free in their observation. What then, is the advice which we give to a class of pupils invited to observe. To be silent, and to keep still, so as not to disturb the others who wish to observe.

If a person observes nothing, patience for her; but this is no reason for disturbing another who is beginning to observe. That person if she is patient will one day also observe; but if this faculty of observing develops in her, it will develop in that environment in which all are observing, and which will give her the faith which will make her say "Yes there must be something to see."

Certainly this is not usual in the schools where we prepare ourselves to educate, and in which we desire to teach. I remember, for example, that once a lady was very curious to attend one of my lessons to teachers, some practical lesson. She came to the school at Via Giusti, and it was the period in which the students themselves were giving lessons to the children. There was therefore, a teacher amongst the children. She was teaching the children to touch the rough and smooth surfaces. Well, the children had learned and were touching the rough and smooth with their hand, and were having a great interest in feeling these differences. The fact that a little child felt these differences aroused the enthusiasm of the whole class, who had been initiated into observation. And all, there were about a hundred persons, remained motionless, silent, in order to watch this child who was touching; and as the whole class of children was also present, there were four children, who, also interested observed their companion who was touching. And I, naturally, full of interest, observed.

This person, feeling this deep silence, and taking this environment prepared for a lesson, said to me; "Well, and when do you begin to give the lesson?" "Silence, be quiet, this is the lesson." "How, this? And who is giving the lesson?" "This is the lesson; we are observing a child who is touching." "And what are the children doing?" "They are observing this child." The person said; "But here there must be something very strange and very interesting for it certainly is not customary to observe."



Hence it is necessary to acquire these attitudes, which are undoubted-ly appear to us, if we care to indicate it by a common word, representing also something which belongs to practical life; we can call these attitudes patience. It is necessary to become very patient; this is certainly not an external activity, but this patience is an inner activity, deep and difficult. In fact, should you have a great intensive work to do, for example an intense intellectual work for which you need help; but which help must come precisely at the instant in which it is required; and one therefore says to a person; "Remain here behind me, keep still and silent not to disturb me; and only at the instant which I call you, run to do what I want." If I work for five minutes, this person will certainly have gone to do something else, and it will be exceedingly difficult and need a long time for this person to succeed in waiting a quarter of an hour. And nevertheless, if I give this person a long piece of work she is able to work continuously .

It is therefore a difficult attitude , that of waiting , and we are not educated to wait ; on the contrary, we consider it as something extraordinary to wait, so much so, that we call it a virtue, and not only that, but a high virtue. Some say; "It is a virtue of genius." Others say "It is the virtue of the Saints". But it is not an attitude of practical life.

However, this is the attitude of him who wishes to enter the secret ways of positive and experimental science, especially of the science which studies life. Scientists, also those of the physical, material, ~~scien~~ sciences, like the scientists of life, are all eminently patient, but especially are those scientists whose aim is the study of life. They must wait for these phenomena to appear, they cannot do anything for these phenomena of life, but since the phenomena of life may come unexpectedly, we must be always to receive it. If this phenomenon of life be periodical, then we must know it first, and it is no longer a discovery. Then we must go at the determined time, be patient, punctual, ready.

Now this fundamental quality to be acquired is not the only one. There is also another quality; that of accepting all that happens, be it the most simple, the most humble thing.

In fact, this is also a refinement of a special interior sensibility. None of the individuals of a crowd, uneducated from the artistic point of view, could take interest in an imperceptible difference of form or colour, which represents something powerful, immense, beautiful, or perhaps something that jars for the artist.

And morally it is the same. The smallest phenomena has a great value for him who has an inner development of these qualities, which are the qualities of scientists, we say to-day, and used to say, of the saints of genius.

For example, that great scientist, De Vries, who studies the mutations of plants, sows 8 or 10 large boxes with some seeds that interest him, and waits for them to germinate. He goes with great anxiety to see if some plants have appeared above the earth, because a difference in these plants represents for him the proof of the fact which he has already seen, but which experiment must always reproduce for it to be certain, or rather to give the certainty to others, to be sure of giving others the truth.

And the thing which interests him is to see if from the same seeds come different plants; this would mean the instinctive creation of species, an immense fact, which convulses the thought of the world, but which is given by this; there are some boxes of earth in which have been set some seeds. Every morning, perhaps the scientist goes to see if something has been born, and when I recently had the fortune to be able to see him, he showed me these boxes which had been there for a year and a half. And only from two of these boxes one saw something appear; in one there were three imperceptible beginnings of a plant which it was difficult to see at first sight, and in the other there was one only. This was the experience of the scientist who had waited a year and a half. What is a farmer in comparison with this man? We find ourselves in the presence of a great man, a great observer.

Now to be able to wait long and receive nothing, and to content oneself with this nothing would represent a great inner attitude that we may call in ordinary language by the name, humility. Who is more humble than this person who contents himself with so little after having waited

so long?

When we see a person at this stage of development, we may say that this person is very self-denying, that he has profound self-abnegation, because he is capable of any sacrifice.

One might say that it is the self-denial of one who wishes to follow the path of experimental science. But this abnegation is not sufficient; as I have described it, it is not sufficient, for another, more intimate, deeper, denial is necessary; what one might call the divesting of self.

You will say, ~~that is not a~~ spoliation of self, the renunciation of all for so long for nothing? No, for the person who waits a year and a half to obtain an imperceptible plant may have within him an idea, a perception, and live by his idea, saying: "This is my opinion, this is my conception." But the scientist must rid his mind of pre-conceptions. In this way only, he becomes a scientist, because if he had preconceptions in his mind, these preconceptions themselves would obscure his mentality in observing the truth. He must be ready for any renunciation. For example, if De Vries - since we have been speaking of him - had not been able to rebounce the theories of Darwin, he would not have seen these plants. His times were those in which we thought that the species were transformed slowly, imperceptibly, one from the other, through the passing of the centuries. If for example, there had been this idea in his mind, and he had been armed with that patience that would have enabled him to say "If I could live for centuries, and centuries, and centuries, I would stand in a corner and watch the species to see them change"; If he had had this patience, he would nevertheless, not have been so well prepared as in his simplicity and readiness to strip himself of his ideas. He had this other quality; to know how to rid himself of his ideas. He believed that living beings transformed themselves slowly and imperceptibly through the centuries, but this was not an encumbrance for his mind; he saw that 12 species were born at the same time, and believed that from a single seed there came 12, and believes this because he saw it.

This knowing how to rid oneself of pre-conceptions, this intimate exercise which is needed to change oneself in order to become able to garner the truth, this is the preparation of one who wishes to enter the field of

positive science. And thus, if in other forms of preparation an intensive study is necessary, to work in libraries, to study 10 or 12 hours a day, to learn many things, here, instead it is necessary to form for oneself an attitude. This is the fundamental preparation, the forming of attitudes of mind, and especially the attitude of observation. And these attitudes are much more difficult than the hurried study of many things because they are internal formations of our auto-education, they are acquisitions which can be made certainly with external aids, but which are essentially the product of individual effort. The Friars, in order to acquire this virtue performed so-called spiritual exercises, they practised patience, humility, the denial and spoliation of self, to the point of renouncing their own ideas, which is the greatest renunciation of which the monks speak; and in this preparation they spend their whole life.

Now this inner preparation is the preparation of the scientist who wishes to put himself into communication with the truth. And as is known the scientists after acquiring this attitude come to receive inner prizes, since when the scientists succeed in thus putting themselves in communication with truth and nature, especially with the truths of life, they feel that internal fascination which we envy them when, for example, they have made a new discovery. We think, "How happy that person must be who has made this discovery!" In fact, it is a happiness that fills the spirit of him who has done these exercises of the saints, and has been able by means of this to touch something living that thrills; to take a sustenance for his inner life, to discover sources of nourishment for his own inner existence. For which this sense of restful felicity which scientists experience when they have made their discovery, when they have arrived at the point of tasting this which is also a form of discovery, that is, of putting oneself in communication with a series of phenomena that are accessible: after they have felt this, they rise to the passion of heroism.

Who does not know that scientists are capable of more heroism than missionaries, more than saints? For example, the Doctor who, while the question was under discussion as to whether the tuberculosis of cows was the same as the tuberculosis of men, and whether therefore, there was great danger of transmission, during these doubts and discussions, this Doctor was seized with the anxiety to know, with desire then, to be able to save human life, and give a certainty of life, and he inoculated

himself in the arm with bovine tuberculosis, with the thought "If this tuberculosis is that of man, then I shall become tuberculous; if I do not, then this is not the same disease, and we shall be able to give men a guide". And similarly others who have swallowed, for example, the micro-organisms of cholera, to see if there is really a certain disinfectant in the stomach which makes it impossible to catch certain diseases by the mouth, but which must be inoculated instead under the skin. To solve these problems, they literally gave their lives to make a discovery in chemistry, and - - -

This means then, that there exists an entire inner life, which has not been taken into consideration to-day other than by certain individuals, the since ancient times, but to-day only by a few individuals, those who represent the cultured in experimental science. Hence there exists a form of study to-day, a series of sciences, that do not need merely an intellectual application but a moral preparation. That which I shall try to demonstrate in the future of my Course, is precisely this; that I wish to transport education also into the way of experimental science. It should make a science in itself. It is for this that the preparation of the teacher must begin, and then essentially consist in the acquisition of the attitudes of observation. Now those who have set forth upon the way of experimental science will not only have the right moral attitudes, but also, naturally, knowledge. The things they need to know are many, but there is one fundamental piece of knowledge, that which forms the intellectual and practical part of the scientist and this is the knowledge of the Method of his science. This knowledge of the method is not the knowledge of a content. Up till now in the ordinary schools, that is not of those of the experimental sciences, the students learned, studying much; and with the help of teachers who explained much, were instructed, acquiring a content, a content of science, or a content of literature. This was the only work, and the content consisted of the intellectual work of the men who had preceded them. Hence we see that man's culture is this, of taking as far as possible, the heritage left by other men, and in the same shape as it was given by these men.

Thus, for example, when we learn a poem by heart, we really cause

something to enter our mind which came out of the mind of another. When we study the philosophical content of an ancient author, we absorb a content. No one individual can absorb the whole of human knowledge, but only a small fraction of it, but the whole of this knowledge is nevertheless limited to the works of man. No one man can contain it, but one might nevertheless have, for example, a complete collection of the books from which these ideas may be taken; it is something limited, however immense.

The scientist is not a scholar in this sense, he is not prepared by a majestic content which comes from the minds of others, but he is prepared by a method. He knows the way and the method of procedure for the purposes of his science. To give an example accessible to me and to you, the microscopist has the skill necessary to manipulate the microscope, of making the varied preparation for the slides of the microscope; he also knows how to cut the substances to be observed, using special knives, and knows then how to observe the preparations through the microscope. This is the skill and technique of his method. Then he has certain knowledge given him by other scientists, which they have studied and brought to light by observations using a similar method. He knows for example, that cells divide in certain forms, which have such and such characters, that they die under such and such circumstances, and that other cells live in other circumstances. He knows all this, but it is not a heavy burden for his mind, quite the reverse! The content is light. He has, however, in this method a secret key; with this key a world is open to him, unknown to the common eye, the world of the infinitely small; or what other beings by special mutations may not in the future be formed to infinity.

But these persons have in this method a key, which unlocks a secret, a secret which is infinite. The content of natural history is infinite; it is far more illimitable than the content of the mind of man, which has thought, though it be for centuries, accumulating knowledge upon knowledge.

One might call it a divine communication between man and creation, between man and the infinite; and man with a special method of science, opens this secret of the infinite alike in the life of infinite smallness,



as in that of the larger beings; now in immensity if we consider the observer of the stars, now in the infinite of matter if we speak of chemistry, now of the occult forces in the case of physics. And the man who holds this secret key in his hand had, like the lamps of Aladdin, has the possibility of penetrating the abysses, of making vast discoveries, of bringing wonders to light and of working miracles.

It is this that the scientist must have, this key: the method of his science. One might say that it is a secret similar to that which the child obtains who has learned to read. He has a key in his hand. It is not the fact of having learned to read that has importance for him, but the fact of being able to read; and when he has this key in his hand, and is at the stage of being able to read, by as many more as are the books with which he is able to come into contact, will be the more limitless his power to learn. Now this means is not so simple as it appears at first sight. All these facts touching experimental science have an appearance of great simplicity. For example, to handle the microscope, to see a cell, to know that there are cells, who cannot do this? and who could not put himself to-morrow in a laboratory, and say "Give me a microscope, something by which to observe a cell, for I wish to experience this great joy in which some become heroes?" These persons would find themselves facing a kind of mystery, and they would realize that between these instruments and the possibility of really reading, lies their own preparation, which is a complex preparation of the whole personality; including the inner personality and all its activities, for example, the senses, that they may really see and discover things; a refinement of all the senses is necessary, of the intelligence, of the moral qualities. These persons must have refined senses, like those of an artist, and feelings almost similar to those of a saint; and after that, with a wide culture, undoubtedly, though not oppressive like that of the scholar, after this he can follow this path, and any of the paths of science will enable him to reach that state of blessedness which brings discovery, or actual contact with the truth of nature.

A preparation is needed as for example, the child needs a preparation who says "I can read well, I will go into the library, take a book and read." He may take, for example, the Divine Comedy, or a treatise on physics. To read is not everything. If this person is intelligent

he will see that between reading and penetrating to Dante's idea, that is written in the book, between knowing how to read and understanding the mathematical formula, there lies an abyss.

Otherwise, one might become a scientist from one day to another. A method, the management of some instruments, might require at most, a week, and we might see this most wonderful thing, persons who a week before did not know what science was, a week after make discoveries.

It is a road which must be opened, a new road, which opens to one who wishes to enter, so simple, so full of joy, so heroic sometimes, so immense - this road of experimental science!

That which strikes us is the final result of this science; what we can learn seeking to reveal the primeval secrets, and the simplicity of the way in which we can introduce ourselves into this path which leads to infinity.

Between this simplicity of the beginning which is accessible to a child, and the immensity of the end which we realise by that which science has brought about in the world, there lies all the preparation of the scientist. I believe that a preparation of the teacher in this special method would be to make the first step and to set foot upon an infinite road; and that the teacher will be prepared when she has learned to follow this road.

It does not matter if she be far from the end where the great things are to be gathered, because this road is so fascinating, that he who has entered it continues.

Now this science, I repeat, we know by its final effects in the whole of our life to-day. We know that the persons who have succeeded in advancing far along this road have revealed truths to us that were formerly hidden, and ~~for~~ that I say revealed; and we say they have made discoveries; ~~not~~ inventions, but discoveries. They have revealed that which existed, that which was true, but had not yet been seen. And these revelations are not only very impressive to all, but bring the greatest benefits to the whole of humanity. And we certainly find ourselves at this moment in the presence of persons who for centuries, and centuries and centuries humanity had not the fortune to meet, since the prophets, because the persons who tell us a truth, who touch a truth and produce miracles, were prophets in past times, and these are the men of science

of to-day. When for example, electricity was discovered in the study of physics, and so much may be done with electricity, that men may be put into such close communication that their brotherhood is material, the communications between men are so modified that distances no longer exist, so that for example, a man can speak in a low voice from Rome to Paris, and to-day the cry of a shipwreck in midocean can be heard at a distance and invoke help, all this is a miracle, it is a miracle of a prophet who has revealed a truth which existed but was unknown to us. Then for example, we see that men would raise wings into the air, more than like birds, as the religions of old described of angels, beyond the capability of any created being, these are the men who have brought us revelations and worked miracles.

When from statistics we see that mortality has fallen in an unheard of way, and that as a result human life on the average has been raised, so that men have a longer life, and all those that are born have a greater probability, it is as if we should say; "Prophets are come, who revealing the truth to us, touching a minute being, a microbe invisible to the eye of man if not armed with special instruments touching this tiny being. these prophets save life, resuscitate thousands and millions of men from death."

We see that a great miracle has been done, and this miracle has been worked by science. Now who makes use of these miracles, and who is it that produces them? The whole of civilised humanity makes use of them and is certainly benefited by them. But they are produced only by a small handful of men, few, who do not live in the eddying world, which whirls faster for the fact of these same miracles which have transformed the environment, but live isolated, in solitary places, where they can exercise patience, wait in silence for the phenomenon to occur, without being disturbed by others, and being able to give themselves up to the happiness of that discovery which comes to light little by little; and which when it appears by degrees in a humble place, in a small field, in a little room, brings a benefit to the whole of mankind. Now we find ourselves in a period in which men enjoy a life given and bestowed as a divine gift by the miracle of the men who have raised themselves in this road of science. And as, for example, at another time, man said, "Let us praise God, who has given us

all these amazing grain etc." We can, and undoubtedly ought to say:  
"Let us praise these men, who following a special path have given us all  
these miracles that form our civilisation, for they have known how to put th  
themselves in - I would say - Divine contact, in direct true contact with the  
reality of things."

But this little, but real, direct contact with reality has been  
enough to draw forth an abundant, a marvellous, miraculous harvest for all  
men.

Now one might ask why we are here, merely to take, I do not say  
without thanking these scientists with prayers, (which would also be edu-  
cational for us, and I believe it a duty to think of them) but I say, why  
do not the men of this time, who know that these paths have led to these  
miracles, why do not these men put themselves on these ways? Why do they  
not follow them, as the way of actual formation of themselves? Why upon  
these paths that have served to touch the truth and bring all this from  
a little touch of the truth, why upon these ways should we not set that  
which prepares men themselves, these who enjoy the products of this science?  
On the contrary this is evidently that which must happen, it is the necess-  
ary step. How is it possible to imagine that the world can continue to  
advance as regards all this, there remaining outside only this immense  
throne which is prepared in other ways, that grows in other mental attit-  
tudes, with another way of preparing itself than this which brings all the  
well-being of our society?

A kind of disunion between the individual and his environment  
is a disunion which cannot long endure. The great present day advent is  
exactly this; that which will bring most life to-day is this; the anxious  
search for the same road for the formation of men.

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Montessori Training Course  
Lecture G

For private circulation among the members of the class only..

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Lesson of April 18, 1914. Summary of technical lesson.

One of the principles in the technique of the method is to teach everything, minutely..

One ought not to wait till people learn by practical life: it is necessary to avoid this disordered learning, and teach the necessary activity at the moment when the child is ready to learn it..

At this age children tend to coordinate the movements of practical life; the children's movements are confused, so we must show them how to make them with order..

That which, for example, is called teaching graceful movements consists in analyzing the movement every movement composing it and teaching each part separately..

Left to themselves the children will arrive at being able to make the movements, but we must help them to attain grace, and, if we know how to seize the opportune moment, the help can be most efficacious..

To educate the coordinated movements to a practical end, to teach grace of movement, is common to all methods, and it is also one of our aims..

Now to make a graceful movement does not consist in making it with a smile.. One might say grace has almost a scientific basis, and may be summarized in the following principles:

(1) In analysing the movements and making each one separately.

(2) In making each part with the least possible effort, that is, eliminating all superfluous movement.

We have to teach every movement and analyse it, teaching each part separately, each part being made with the minimum of effort.

Generally we command the child to make certain movements, for example, to stand up and sit down, but we do not show him how to do it.

But the command must be abolished, and for it be substituted the humble work of teaching everything even the smallest.

In the case, for example, of opening and closing a drawer. First the button is taken between the fingers, then the drawer is lightly pulled or pushed.. Only the hand should be used for this, and not the whole of the body. Grace lies in eliminating the useless movements.

Similarly for opening and closing the door. People often turn the handle and push the door open in the same movement, or even use their shoulder also. But the handle should first be completely turned, then the door pushed with the same hand, and then the person enters. Making the movements separately and with the minimum of effort is more graceful.

To hand a thing with grace to someone is generally interpreted to mean handing it with a smile, even though done with an ungraceful action. For example, holding the object out to the person when still at a distance, or having approached the person giving it to them with violence, almost making them feel the strength of the action. There ought, however, to be two periods, to approach the person, and then hand it with simplicity, moving as much as is necessary to do this and no more. This is to offer a thing gracefully.

In shaking hands, the movement of the hand is sometimes commenced at a distance, whereas the two movements should be divided, that is, first approach the person and, having come near, stop, and then shake hands.

In descending from a carriage, one begins to move even before it is stopped, putting one's foot upon the step, and accompanying this by a twisting of the shoulders, all of which is useless and therefore ungraceful. One should wait till the carriage has stopped and then get out, distinguishing the movement of getting up from that of turning, and then of descending. We should not consider the teaching of these details beneath us; to raise all the acts of life, to make them worthy of a



purpose and minute instruction, is also a form of charity,--to the poor, for example, who by themselves, could not attain the grace of the aristocracy; and it is a form of humility for us, not think anything too small or too humble for us to teach.

He once gave the children a successful lesson on the way of blowing one's nose. There are many ungraceful ways of doing it. Some begin by opening out the whole of their handkerchief, then after blowing their nose continue to speak, and gesticulate with the handkerchief. Others again use both hands, etc.

It should be done however with the greatest grace and modesty possible, make the necessary movement with one hand, and then let the handkerchief disappear in the hand as quickly as possible.

Especially with poor children we have to take notice of the manner of scratching. If this cannot be avoided, it is better to do it in the simplest way possible. Some move the whole arm or the hand but it can be done by raising the arm and then making the movement with one of the fingers, for example, the smallest. And this imperceptible movement can then be made gracefully.

To use the possible movement is to economize energy, and so this consideration has a large application to practical life, and liberates energies for other and higher purposes.

In buttoning a dress, one sees people pull two edges to be fastened together and button them all in one movement, but the edges should first be laid neatly together and then buttoned.

One of the exercises of practical life is that of the frames for buttoning. One must teach the child first to lay the edges together and then button them. Also in buttoning the movements must be analyzed and shown separately, first the movement of making the button enter the buttonhole, and then of adjusting it on the other side.

When the children have understood they repeat the exercise with great interest, and little by little the mechanisms become established.

The lesson be given at an opportune moment, when the child lends himself to it. And to strike this moment it is not necessary to have a great psychological knowledge, because we try and

if we do not succeed,, that is,, the child does not the lesson, we leave it, and humbly begin again some other time..

It is the teacher who must give way,, not the child and the child is disposed, then she must do all she can to help him..

When the lesson has clearly given,, and the child has quite understood, there is no need to correct him..

If the child makes a mistake;; instead of correcting it, it should be left,, and the lesson given again another time;; but in meantime the mistake should not be revealed.. To make correction,, while the ability is being acquired,, while the child is practising,, is always in opportune since this is to interrupt the spontaneous exercise of the child,, which is the very phenomena that we wish to arouse and keep in operation.. Since the individual must acquire these capacities by himself, it does not help him to acquire them to be corrected, if his mistake is due to his incapacity.. If his mistake is due to not having understood, then the unsucces rests with the teacher and not with the child..

It has been often noticed that children have not returned to write again for a considerable time after being corrected in it..

It is necessary to be careful,, not, by correcting, to suffocate that which was about to born..

Rather,, at the opportune moment,, the teacher should humbly, patiently, try again another time, beginning again from the beginning..

These are the conditions,, sine qua non,,-- without which the phenomena does not appear..

It is written in the Bible "Judge not and ye shall not be judged;; condemn not and ye shall not be condemned.."

But we usually call out, without however, teaching,, and say to the child "You are good for nothing!" "You are naughty!" "You are awkward" and a great confusion is his conception of good and bad, and the child is judged un justly,, depressed,, and not helped;; but he is not taught what he ought to do!!

To perfect the movements is really to help development, the internal construction of life.. One may say it not pleasant for the teacher, to remain always on one side, when the child developes by himself and to aid his advance only with little humble lessons.. But nevertheless

these are the true ways..

We ought never to give orders, because it is not by commands that one teaches.. For example, when a music teacher says to the pupil, "place that finger properly," and does not try materially the finger that moves,, incorrectly adjusting it herself with her own hand,, orders uselessly, but does not teach, and does not help the pupil to perfect himself. This fact of teaching and not commanding is special to this method of education.

And he who thinks to praise himself saying "I am patient, do not judge,, never cry out,, stand always apart, am humble etc." would not be praising himself for anything special, because this is the only way, necessary, without which nothing can construct itself in the life of the child..

For the rest,, all religious people, when they have wished to kindle the inner life, and once kindled, keep it burning,, have had the humility to leave it free to develop..

All this that are called the Christian virtues, considered as virtues, charity, patience, gentleness, humility, not to judge, not to condemn, to stand aside, etc., as they were the ways of development of the inner life, are now the only ways, the single necessary way for developing and guiding the deepest activities..

# Montessori Training Course

## Section M

For private communication among the members of the class only.

This version of Dr. Montessori's lecture, being the translation by Miss Watson of the report taken down viva voce, Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorized for the personal use of members of the class.

Lesson of April 28, 1934

Education of the senses.

As a deep silence was religiously established in the hall, a little girl, apparently about three years of age, devoted herself to arranging in order on a table various series of tablets on which had been wound threads of divers colors, putting them in order according to the descending gradations of the various colors.

"I believe that you have noted an interesting episode. While the translation into English of one of the lessons was being read, these children came into the room. AND I ((however much I may sometimes deceive myself into thinking I understand them)), I had a certain fear and I said, "Why have you let these children come in while there was a lesson?" But then I saw that they sat down at once politely and composed themselves to listen. We should say, in short, that they have stayed as we desire, according to our social rules, that these children have had great patience, such as we are having now regarding our work, and hence are very nearly at our level of development as far as patience and breeding are concerned.

But after a while a little girl came close to me and said, "I want something to do." It seemed to her she was losing time, and she certainly was in the right.

However, when these objections are made, "If you educate the children by a method of liberty, letting them do everything they wish, how will they act afterwards when they will be grown and will be obliged, together with other persons, to submit to the social necessities, such as for example to compose one's self to listen to some one as the children are accustomed to do in the common schools?" and then another, "But

how will these children act when it will finally be necessary for them to work, because this is a necessity of the social life?" "I generally do not reply to the objections, because the children answer them just to the point. To have seen this suffices to have had an answer.. There is no need to wait for them to become grown because the children are capable of remaining composed to listen and of being patient like us.. And if this patience is terminated, it is only by a request very civilly moral, namely this of asking to work.. In fact, as soon as she was free, this little girl began to work, and she put herself at our post and let it be for us to compete with her in patience up to the moment of our asking, also, to work.. It is certain that she would go a little ahead, because it seems that this work does not tire her."

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"I should like today to say something upon the technique of the education of the senses, the technique of the method for education of the senses, and to establish a few practical elementary principles.. Much is spoken of the education of the senses for the very small children, and also the education of the senses is adopted in the practice, or at least so it is believed.. In deed, in a broad sense, it can be said that a child exercises his senses every time he perceives some sensorial impressions from the environment.. So I believe that,, in the ordinary methods, when the education of the senses of the children is done, it is there limited to throwing into relief the qualities of objects.. For example, they say, "How does this thing seem to you? Is it of this color? of some other color? does it seem to you light or heavy? hard or soft?" In one way of looking at it, yes, this also is an exercising of the senses; but when one is speaking of a rational technique, of a method for the education of the senses, then it is a question of fixing certain precise modalities, precise modalities which to-day are in a great part prescribed for us by the subvention of experimental psychology.. Experimental psychology has given certain precise terms of research, which represent methods for making sensorial examination of the subjects.. These precise terms,, (which are really often a psychological interpretation for that which regards the sensations), can be applied in the education, and then in this case we have a technique, a scientific

method for the education of the senses..

Some of these procedures regard the preparation of the subject, and others regard the preparation of the objects which are of service for the education. For the preparation of the subject, and to take as a guide in the first place, we have this fundamental fact, namely the isolation of the sense to be educated. When we wish to educate one sense, we need to isolate it, so far as the practice possibly permits because we certainly cannot obtain here those absolute data which can be obtained in a scientific cabinet. To isolate the sense, for example in this case where the little girl is working, would really be to act so that the other senses would be obliged not to exercise themselves at the same time. Then, for example, the silence in the environment is favorable to this exercise; and above all, then, the child's attention needs to fasten precisely on that object with respect to which it is desired to educate the sense.

The isolation of the senses can be done practically in the school for any one of the senses. For example, if it is desired to educate to the touch, or the basic sense (sensitivity to weights), in this case what ought to be done is to isolate the child from so many other sensations which may possibly be in the environment, for example the visual sensations. In this case, too blindfold the child is a mode of isolating his senses."

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Further meanwhile a little girl takes some tablets off wood to examine, weighing them on the palm of her hand, distributing them in two piles according as they are light or heavy. At the same time the same child says, quite clearly, respectively, "heavy, light." Then this child is blindfolded and the same tablets are mingled in a heap. On her own accord, she turns to sort them, repeating the same procedure, in most exact fashion. The control on the part of the audience is possible because the tablets are distinguished by the diverse colour.

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"They tell me this little girl has never done exercises with these tablets which serve for differentiating weights which are very nearly alike. In order to sense them better, she spontaneously closes



her eyes. Indeed the sensibility is very much greater when the eyes are closed..

There can even be a direct preparation of the sensorial organ. This for example, is in the preparation of the skin. ~~For~~ the sake of the education of the tactile sense, there is need that the children, the first time they come to do these exercises, should immerse their hands in tepid water because this greatly facilitates the sensations, and that they should afterwards be dried, making a light friction, a little massage; after which can be taken the first step in the education of the tactile sense. In this case all that ought to be done which is not possible here in consideration of the environment, but which you will see done in some school. For the education of the tactile sense, the contact with the surfaces must be the lightest possible, so that there may not be, together with the tactile sensation, also the sensation of pressure, which is a diverse sensation. Now as the very little children cannot in the first exercise understand by themselves from a description the manner of touching the objects, so we, after having the organ prepared in the manner which I have said ought to guide it in this first inspection of the surface, in such a way that the children's finger-tips may lightly brush the surface."

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During this time another little girl is being taught to recognize a surface of wood (smooth) from a surface of sandpaper (rough) and repeats the experience several times without making a mistake, after having been blindfolded. Afterwards the child accustoms herself to recognizing among divers sheets of sandpaper of varying degrees of coarseness, those which have the same degree of roughness, always repeating the experience with the blindfold.

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"There are also some fundamental principles for that which regards the presentation of the objects. The first sensorial exercise ought to be that which leads the child to recognize the identity of sensations, that is in a mixture of objects to recognize those which are identical. The same procedure is of value for whatever sense every exercise must begin from the recognition of identity."

So,, successively, the two babies recognize and pair the spoels of equal colour from a heap of those of which we have spoken; afterwards they recognize and pair,, according to the highness of the sounds produced by them some closed cylinders of cardboard in which have been put divers substances which produce differing sounds, and so on..

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"In,, also treating of colors, there must be given some objects equal,, two by two, and the child,, as a first exercise regarding the education of this chromatic sense which permits the recognition of the colors,, must find the equal objects.. For the first time, a great many colors cannot given, but only two or three contrasting from each other.

On the other hand, afterwards from the recognition of identity we must pass on to differentiation between the most extreme contrasts which we can present to the children."

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In the meantime the two babies are distinguishing some volumes, some lengths, and some thicknesses, exaggeratedly large and small..

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"For example, in this series which you already know about, some lengths, some thicknesses, etc., the extremes must be presented one at a time to the children, or, rather, the objects contrasting from each other to the maximum possible degree..

From the recognition of the extreme differences, in the succeeding sensorial exercise the child must pass on to the recognition of differences always becoming less."

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And here the babies form a tower with numerous cubes of descending scale of volume, arranging them with the largest at the base and the others one upon another in descending order of size..

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"Hence the objects which we present to the children and which you know about, for example those series of cubes, of prisms, and of lengths, make the child exercise in this possibility of differentiating objects; which objects are studied so that the possibility of differentiation may correspond to the power which he has, with respect

to this age..

These beginnings, accompanied by lessons, do not represent the education of the senses: they are an introduction to the education of the senses.. In this fashion we put the children into relation with some external objects which have been measured by a long experience as adapted for this purpose: to put the child into relation with these objects so that afterwards the child may be able to educate his senses.. Indeed when we tell the child a name, a word relative to a quality, we certainly are not educating his senses nor can the presentation (however studied and patient, such as you have seen) of an object be called education of the senses.. And adirection which we give to the child so that he may be able to educate the senses, is never education of the senses; just as we give him the means adapted to educate rationally the senses, but that is not the education of the senses.. The education of the senses cannot be a work of the teacher toward the pupil, even be it with a responding action of the child, - sensorial education must be the individual work of the children.. The children do begin to educate rationally their senses when, after such presentation, they are capable of repeating many times the exercises which we have taught.. That work of which you, observing in the case dei Bambini, have been aware, which consists precisely in the constant repetition of an exercise, that is education of the senses..

If we should not succeed in putting the children into relation with the material in such mode that the children afterwards continue to exercise themselves constantly upon the guide which we have given them, we shall never obtain a true and exact education of the senses.. For example, that child who at the beginning of the lesson had taken all the colors from the two boxes and had put all these colors in gradation, she really accomplished a sense exercise.. This sense exercise does not have limits which the teacher can define, and it is the child himself who must find them, the individual who must feel just at that point he must exercise himself in order to train his own senses.. It is:

Therefore a spontaneous activity of the children which will educate their senses, for which we cannot give lessons on the education of the senses, but we certainly must provoke a sensorial auto-education..

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When we have succeeded in provoking sensorial auto-education our aim will be attained, which aim will be more or less distant depending upon the individual activity of the child. Hence there will be a great many individual differences; we shall have some children who can exercise themselves more, others who can exercise themselves less, in order to attain that end: this is a thing which we ought to observe as making an experience; we can neither provoke it nor limit it.

However when we shall have begun to initiate the child very nearly in the mode which you have seen and in the mode which we shall illustrate more in detail afterwards during the course, we shall become observers, and we ought not to do other than to put ourselves to one side and observe which may be the sense that must be successively put into communication with the stimuli. This is a thing which we certainly ought to understand in order not to begin the lessons by chance, and we shall talk about this order as the course progresses. But now referring only to a general technique, we must say that when we shall have succeeded in putting the child into communication with the object, it will afterwards be the child who will exercise himself according to his psychological needs, he himself who will select those stimuli which are adapted for him in that moment in that hour in that day at that determinate point of his psychic development: so, after having put the child into communication with the objects, we ought to attend and observe not only the reaction which comes to pass in the child in relation to these objects, but observe also what comes to pass in succession, especially in regard to what selection the child will make of these various stimuli.

It will be the child who will select the objects necessary to his inner needs; here is what we call, fundamentally, liberty, even in the technique of the education. The child is free to select what objects he will, not in the sense that he may take by chance whatever object he wants and do with it whatever he wishes, but in the sense that when we have initiated him to a certain work, the child can select those stimuli which are opportune for him at that moment, an opportuneness which we cannot guess but which we can only verify and observe. If we do not permit the child this freedom, this education could not

develops itself according to the natural laws, and especially that which regards the education of the senses where we cannot intervene to correct the child because it is evident that the child must develop his activities which lead him to the recognition of stimuli, by a process within himself.. If, for example, a child has not yet succeeded with his spontaneous exercise to recognize the difference between two near colors, that tells us that he does not see this difference and there is not yet in the child the power of discriminating these diverse objects, and it certainly will have to develop itself afterwards.. We shall see when it develops= when it develops the child will recognize them; but we may not say to the child: "Look at this difference." which he cannot yet see.. It will be an attuning of his powers of observation which will bring him some day to recognize that error which he had not comprehended before.. So, for example, if we see that a child makes an error when putting the colors into gradation, at least when we see that this error is not a very gross one (in that case we recognize that the child is absolutely immature and we can prevent him from attempting a futile exercise, which would not in every mode be a sensorial exercise), but when we do see that he makes a slight error, that is evidently due to the fact that there is not yet accomplished in the child the development necessary to the recognition of these differences, then we need only to wait for this development to come.. Then we shall be able to observe what happens.. For example it will come to pass some day that the very error which the child repeated is all at once perceived, the child discerns the error and changes these objects.. Then we shall even be able to measure this development and to say; "On this day the child began to perceive the gradations of the colors, on this other day he succeeded perfectly to recognize the modulations of the colors.." According to the interest which we shall take in these observations, we shall be able to analyze them more or less.

The principles, therefore, which correspond to our work are very simple: the preparation of the subject, especially tending to isolate the senses, and the preparation of the organs in case we are considering the tactile sensations; in the presentation of the stimuli, to present first identical objects, then contrasting objects, then a series of



objects graduatedly dissimilar from one another with measured differences in the objects which are presented to child;; to put the child into relation with the objects in succession, and then to wait for activities. These activities are developing during weeks, during months, during a entire year, with this this simple material which you have seen who are to guide and facilitate the education of the senses."

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Meanwhile a little girl takes out from suitable cases some wooden squares in which have been cut various forms; circles, rectangles, squares, stars, polygons, etc., and draws out the inner pieces, adjusting them upon fitting cards on which the contours of the pieces are stamped, afterwards distinguishing in their turn these cards with only the contours from others which carry the same figures, but stamped in full.

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Observing the activity of these children, one comprehends how it is they who are forming the method of education, they who are giving all the details, who are giving the development.. What we have to learn is an extremely little thing;; it is above all to let them act. If we draw a comparison between patience these little children have in doing these exercises and the patience we have, we certainly must conclude that the capacity to be patient was destroyed in us.. Yet we always say;; "There is need to train the children to patience."

When the teachers say to the children of the common schools, "You need to be bright and happy, because the school is where must come with pleasure.." etc. , then afterwards in school, they say things which destroy the possibility of this pleasure: in such case all the words are futile.. They have put a sort of moral education in the common schools.. On the contrary we perceive with astonishment that they are happy in these things which would seem to us instead tiresome and impossible for the children to accomplish.. So they are continually correcting us, they continually teaching us.

This little girl is so absorbed in her work that is nothing which can distract her. It is said, "But how is anything done to



develope concentration in the children? Because some day they will also have to concentrate themselves on some work.. What will these children do for concentration if you leave them free to do what they will? But they are the very ones who make us consider how it was we ever came to lose so much the property of concentrating ourselves;; and we do not know how to be as these little children are.. This child, after having made mistakes several times in arranging these pieces,, has succeeded, after a series of attempts and self-corrections.. Thereforbearance and self-restraint for being so corrected would never have been called forth by the teacher who might have said "Oh look, child!! You have made a mistake.. You have put a circle where it ought not to have gone!" Perhaps that would have destroyed all this beautiful activity..

One of the things that I observed in the first days that people came to visit the Casa dei Bambini, was this,, that it almost never happened that an adult would have the patience to follow a child in his exercise quite to the end.. This never happened,, that an adult was able to equal the child in patience."

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The child who is arranging in order the divers pieces is diverting herself,, no longer takes care to correct her errors..

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When the child begins to make these errors it means that his sensorial exercise is finished.. The child commences to divert and amuse herself,, and in this case one can interfere without danger of spoiling anything formative.. Exactly one of the things which the teacher must learn how to recognize when she is observing the moment of the child's great intellectual work, is just the instant in which this work denotes weariness for the child.

Now, as you see, this child would continue to sort all the cards, dividing the narrow from the wide, completing a work very long which we should not have the patience to follow, so that because of the impossibility of following her which we find in ourselves, we have to interrupt the work of this little girl."

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Lesson of April the 22<sup>nd</sup> 1914

I have to make a slight change in the programme since instead of the practical lesson in technique I think it necessary to continue the subject interrupted in my last lesson, in which I spoke of the interpretation of the free movements of the child, and said that the movements of the human being are not partial but complex and tending to a purpose; and that these movements represent an exercise, which is not only the exercise of the muscles, but a complex psycho-muscular exercise, the coordination of the external movements and also of the inner movements. That a complex act be followed to completion, this is the important thing for organizing the inner life. In performing an action completely many factors intervene of a psychic nature: for example, an action must be aroused, decided upon, followed to completion; it is this that gives the sensation of relief, of repose in a finished action. I said that there could be no repose for the sufferer from insomnia except in an action which is orderly and finished. I also said that an action which has a purpose does not cause fatigue; an action instead is tiring which requires even an inferior muscular work, but which has no purpose. It is necessary therefore that there be a purpose to attain and that the movement be completed. To interrupt a movement in course of actuation, here is a thing which brings a great dispersion of energy; instead to complete it gives relief. A movement so performed is a complete exercise which has organized the inner life; so much so that these movements are utilized to reorganise the inner life which is disordered, for example in the case of neuristhenics and the insane. When, for example, the insane carry stones to make a heap in a corner of the garden or carry linen from one place to another or fold up serviettes they perform an action which has an definite object, which requires in them a complete

undertaking of an interior act,, and it this which little by little re-  
builds the personality. The more complete this act is the more it  
has its hygienic purpose of a psychic hygiene,,. Thus,, for example, if  
in this act one must take a quantity of linen from a cupboard and  
carry it to a certain place,, know where a certain thing,, or another, is  
kept, here is something which continually renders more organic a series  
of movements.. Now these are the exercises and movements suited to  
little children, and are the forms of work which we have established in  
our schools,, also from the material point of view, which as I said,  
might be compared to that principle which we have already absorbed, di-  
gested that the children must be able to move.. A way of moving you  
have seen in our Children's Houses, where these little children perform  
all this class of movements that refer to actions of practical life; thus,  
for example, they clean the environment etc ., and also busy themselves  
with their own toilet, dressing themselves, washing etc.,. Allowing  
this kind of mechanism,, of voluntary intelligent movements, to develop  
freely in a school for little children,, we observe the phenomenon that  
these little children perform actions which are always extending in  
their external range.. Thus, for example, that which at first may be  
a simple act,, such as cleaning a table, dusting an article of furniture,  
is then followed by the fact of putting these things in order, of put-  
ting them back in their places, then of knowing the place where these  
objects are kept,, going and taking them and using them.. Well, all  
these movements, all these actions, come to give the child, also uncon-  
sciously a fundamental idea of order in the environment.. In fact they  
distinguish the various things,, the places in which the different  
articles which have different uses are put. They know that such and  
such an object has to go in one place and another in another,, and that  
when they have been used they may be put back in their places..

This is not only a movement, an intelligent movement,, but it  
is also to acquire something more, that is fundamental in the construc-  
tion of ideas, that is,, it is to acquire a practical idea of order. In  
fact the whole of this work, that the child learns in the exercises of  
practical life might be called operations which serve to set things in

order, and little by little to distinguish disorder, chaos from order; and also when this setting in order consists not only in transporting things from one place to another, but for example in acts of cleanliness. These acts also are acts order. In fact, many of the things in fact, many of the things that we call not clean, dirty, are not other than in disorder. If we analyse that which is not clean, we simply find that it is disordered. For example, when there is an ink stain upon the table, it is not that that ink in itself is dirty, since it is clean when in the ink pot, but it is out of place. It is therefore a disorder that must be rectified. If there are some pieces of paper upon the floor, it is not to say that the room is dirty, because the papers in themselves are clean, but they are out of place. Thus a stain upon a dress is the same thing, an oil-stain, for example. It is not that oil is something dirty, but that this oil is out of place.

Now when we see a disorder which is evident, we try to evolve order, banishing disorder. To clean the environment means substantially to order it. When something cannot return to the place in which it belongs, it has to be eliminated, since nothing can exist out of its right place. This thing out of place is an eyesore and this which is manifest in certain particulars is nearly complex and multiplied in every thing that is disordered. Every thing that is disordered, has in itself a significance of lacking propriety of order, of mistake.

Now to cooperate in maintaining order about us, and to set things in order external to us, is a work which brings in itself a tendency also to inner order, it is precisely that work which is recognised as even able psychically to reconstruct the human personality whose forces have become decadent. It is hygienic to busy oneself tranquilly without effort, in putting things in order about us.

This kind of work, of ordering things that exist, is very different from the other work which consists in producing things. There are these two kinds of work, the work that tends to order things we hold to be inferior. Undoubtedly it requires so little effort that it is on the contrary the repose of the personality.

We consider it in general as servile; this work which tends to order things, because it is a work which represents a tranquil exercise of intelligent movement,, it does not represent the effort of the man's intelligence who creates with a great labour.. For example, the difference between the servant and the workman is that the servant does not do other than order things,, and re-order them.. THE workman creates them,, produces them,, and from the workman up,, there is the whole scale of the producers of work.. But there is a part of this work which does not consist in producing;. In general, this kind of work is very limited among men,, and many men seek to free themselves from it,, but there are also persons who have a very intense inner life who do these kinds of work, for example, the scientists.. These men perform many of these simple operations which consist in re-ordering.. We see these great scientists in their laboratories who clean the glasses which serve for their experiments,, clean the precise instruments that they use,, re-order their books,, very often dust the tables,, sweep the floor etc.. All these are operations that the scientist performs,, not only with great simplicity but as doing some restful work which it is necessary to interpose with the intense work of the mind which thinks and searches..

Thus also the monks who cultivate an intense spiritual life,, begin their day with these activities of re-ordering the environment.. The hour of the morning which is the hour for prayer,, is also the hour for putting in order the external objects.. Many people have made this experiment, having to do great intellectual work, of doing these operations of re-ordering the environment in the morning, and have then found a great invigoration in their power as creators..

Well this tranquil work which produces order,, is the work suited to little children,, it is the work which they seek and in which they persist with great delight,, as perhaps you yourselves will have been able to see,, work which is not the manual work of the schools.. For example the manual work of the children in the schools which is so defended in Germany and a little elsewhere,, can be the fulcrum of the education of children who are already developed in their psychic potentialities, but are not the first work of man who



is not yet formed.. In the experiment which I have made upon older children, children of the elementary school, I have seen that after this work of re-ordering, there always comes an intensity of pure intellectual work.. The child wishes to develop his intelligence, ~~shows~~ a period of culture is certainly necessary to integrate the whole development of the human personality, and after this the child is really fitted to produce manual work ( which is a work which needs the application of a being already developed). So that this manual work can only come in a period sufficiently far from the first, so much so as to be intercalated by a period of pure intellectual work.

So when we say that the children must be free to move freely and this as a first condition of life, we must understand that the children must be able to move in an intelligent work, which is not as I have said a work of production.. This might be called an idea of material work parallel to the idea that is considered to-day, that the child must move freely.. It is a material motion. For example, the Swedes suggest that to have a healthy body, one ought, every morning on getting up, to make movements with the arms in a definite direction.. We find that this is true but true only up to a certain point, it is a partial truth.. Thus for example, one might say instead, that on getting up humanity ought to do exercises to clean their room, as the monks do.. This would be a work that integrates, that sets the personality in order and helps it with this established order to permit the expansion of its forces during the whole day as a hygienic fact.. This group of exercises however may be considered not only from the material point of view. If for example, in my published books, call these exercises not only exercises of practical life, but exercises that lead the child to the conquest of his independence, giving this conception a higher significance than that merely of physical exercises; and in fact closely uniting this fact with the fundamental educational idea of liberty.. In fact with this exercise the child not only moves he it also intelligently and humanly, it is not only the child of humanity that moves but it is also a human being that, moving in



this way, acquires something which he did not have and that is essential for his existence, - he renders himself independent of people who were absolutely necessary for him to be able to live in that way;

For example, the child that cannot dress by himself, that is not able to put things in order to lay a table etc.; this child has the absolute necessity that someone else should do this work for him. But his position is not that of the rich man who wants someone to dress and wait upon him; but it is the position of the human being who cannot exist by himself without another human being that helps him, hence his life does not exist for itself, in this social sense that this being's life must be necessarily united to the life of another being that helps it in those particular ways. The child made independent of those who must serve him in order that he can socially live, is the child that has a different life from what he had before, he is not only a child that has done intelligent exercises of movement. For example, when the child is born one may say that he acquires, not only the property which he not possess before of breathing the air, but he is a being rendered independent of another being and he can for instance live on his own account even if the mother becomes ill or dies. Before instead he was materially closely united to this other being. He has thus entered a first grade of independence of his mother. When the child can be nourished only at his mother's breast, he is united to his mother, and can exist as an individual who is nourished without this being. When instead he begins to eat by himself he is more independent of his mother, so much so that if for example, his mother ~~is separated from him~~, or goes away, he can still live. At first however he had to be closely united to her. Hence there is a material bond which continually loosens giving the being an independence that doubles the probability of his life. When the child has finished being fed at his mother's breast and begins to be fed freely, he does not however, yet know how to walk and has to be carried from one place to another by someone. So, when the child begins to walk, he does not only do an exercise of his muscles exercises of his lower limbs and acquires physiologically the property of keeping his balance, but he acquires a new life, because he

can walk by himself, he no longer has need of the individual that carries him from one place to another, but he can transport himself by himself, he has been made independant, has made a step more toward the material independance possessed by the beings, while little by little his inner life evolves,

But at this point, in which the child can eat by himself and walk by himself, he is still dependant upon other beings, in this sense that he cannot be socially free like the others as long as he cannot dress himself etc., and always needs someone to wait on him dress him and etc.. This fact of being served without otherwise being able to live by himself is a fact of slavery of the child, and to give him the possibility of doing all these things by himself, is to give him another step in his material independance.. When he has taken this last step, in his material independance one may say that he has achieved his independance in a period of life.. Thereafter he will have long to live, up to the time in which he will have to produce by himself and acquire, for example, from the social point of view, economic independance, which is another further material independance of the other human beings.. A thing which does not mean an absolute independance, but an independance of material bonds which constrict life, and rendering himself independant of these material bonds which hinder the expansion of life, the individual always reaches a greater fullness of life, is, inwardly always more developed..

From these facts one cannot speak more fully, because it is experiment that must show you, as it was experiment that showed me, that when the child has been put in this condition of material independance, in the sense that he can be sufficient to himself, in these facts of external life the highest moral sentiments are born in him.. This fact of liberation, produces an elevation of his inner life, for example, he has the calm, the serenity, which is the strength of an individual who feels more capable than he was before has a higher idea of his own powers and his own personality.. This produces what we call a spiritual elevation of the individual.. Only when children can move by themselves and therefore free, in an environment which offers objects such as can exercise these in-

telligent actions of the child, only when we have rendered them independent, and leave them free in an environment adapted to the conquest of this independence, only then can the children perfect all these movements, which at first are only born in them, and which we have given just as nature, for example, gives the first tooth, gives the possibility of keeping one's balance, to take a step, and after that the man, when he has once penetrated this sphere, this new possibility, has in himself the forces for development, in the sense of perfecting that first impulse that has been him.. He is introduced into a world that is his, and in this world can freely perfect himself.. It is a question of leaving him free to act, and of giving him these means, for the child then to be able to perfect all these movements by himself, thence making conquests of independence always more elevated.. Not only that, but when we speak of perfection we must understand that the fact of perfecting the child in this series of actions, is not a fact that can depend upon us except in part, but is a fact which must depend upon the child.. We ought to help him, however, not only as a person, but with the objects themselves which surround the child..

For example, I have said that one of the qualities of these objects should be that of being light and also breakable.. That is I did not only say that chairs and tables are necessary, but I have said that chairs and tables are necessary which are light and fragile. I have already said that there ought to be fragile ornaments, but you have also seen in the Children's Houses, how the objects used by the children are breakable.. For example, the children lay the table with china plates, not enamel, they have glass tumblers, not metal ones, all objects that may break if they fall; and thus the chairs and tables ought to be so light that they move if knocked against, make a noise and fall.. This environment, so prepared, is, one might say, an environment sensitive to all the children's erroneous movements. e

Every child that moves badly is condemned.. It is a chair that condemns him with the noise that it makes in falling, in is a table that accuses him a glass that denounces him and breaks, a plate that break and it is these continual denunciations of the mistake that follow the child in all his efforts at adaptation.. It is they that lead the

child to the possibility of perfecting himself, especially when united to this as that education of the senses which renders him more sensitive to all these external facts, which make him better able to observe, more sensitive to noises.

And also these things become little by little more susceptible, so that the child advancing with these exercises upon his way, begins to feel the order of the environment, and to be himself sensitive to order in the environment; so that the tables put crooked, the chairs upset, ink-pots overturned, or water upset on the floor, are all things which strike his sensibility. Many people have made this criticism that such light tables and fragile articles, are not suitable for little children, since little children can spoil all this. This instead is the essential quality of objects which are to have this purpose of perfecting the child in this exercise of his; that which permits auto-education is the continual control of errors and the continual denunciation of errors. There is no need of a teacher who says: You move badly. It is the object which tells the child this. Little by little the child learns to move among the articles and manage them. There was, for example, in the school held by Signorina Maccheroni in Milan, a badly made shelf, upon which the children put the iron insets. It resulted that in going to take them from this shelf, they fell to the ground, making a deafening noise owing to which this was exceedingly annoying. Signorina Maccheroni therefore asked to have a better shelf made. But owing to the habitual care with which these actions were made, it happened that by the time they brought the shelf the children had already learnt to take these iron insets with grace and adapt their movements to the bad construction of the objects that they no longer fell to the ground and the new shelf was useless. Thus it is the children that learn to move, owing to the fact that the objects have fallen. Hence the scope of this light furniture, is not only that the children can take the objects and carry them, but also that these articles may serve to help the child in his auto-education with the perfection, little by little, of his movements. And since these movements come to co-ordinate all the psycho-motor activities of the child, we must consider in this perfectionment a development of life in course of evolution.

Now our aim is not that the child should do these determined things to the end, for example, that one day he should be able to wait on himself, since anyway, one day he will learn to do these things, to move without throwing down a chair, to lay a table, and dress himself. This would come by itself, later imperfectly, without it having helped his development, his perfectionment. the aim is not therefore that he should learn, but that he should perfect himself, develop, that his living human personality should be developed to reach its finality.

We see that the children are eager to do these things, that they have this instinct which is so precise of wishing to use articles for simple purposes, of wishing to do things by themselves. We see the development in the child of this passion for such occupations.

We can say without doubt that the child has in himself this faculty for living his own life, he carries it in himself, and in fact he does it willingly and easily.. One might consider how the environments respond to these tendencies that would exist in the child and which can be satisfied with such simplicity, leaving the child to wait on himself, to learn by himself to do these humble things, which are the actions of reordering the environment, and serve to develop his life.

The environment in general, does not correspond to him, neither helping him by its example because on the contrary, the child finds himself in a world in which these acts of life, that are necessary to him, are not treated with respect. Rather, the child is born into a world in which he sees that these acts of life are given a low place, that of servility, they are the work of servants, these actions that set the child upon a road of independence and help him to advance, it is that work which men do not usually try to do for themselves, with the exception of the men who live an elect spiritual life, out of the common, and therefore inaccessible to the children as examples.

Hence it usually happens that the environment holds the child back in the development of his life, hinders this development.. He has a great confusion of ideas about "good" touching this kind of work. For example, the child sees that his mother is waited upon, that everyone has servants, and that the persons who do this work are despised..



So it is difficult to find the way of life, that is the right way, upon which the human being can advance towards his perfection, which is his salvation.

This initial sensibility that would lead him to do that which saves him is often obscured by the environment that is also constituted upon mistaken factors, since a strong intuition in the choice of the true good is not instinctive in an absolute way in man. In fact we see that the persons who have all the means possible for attaining the best finalities of life do not reach them, they err. For example the poor are underfed, but the rich have fallen into parasitism, in forms that are depressing to life. All this is a social question to be observed, to understand that men have primitive instincts, which however, are not sufficient by themselves alone to combat the errors that already exist in the world and burden it. And we might say that upon this path, which is so simple, of the first form of social independence, we can already see, almost follow, this drama of humanity which feels the first impulse to its salvation, and which is surrounded on all sides by dangers that tend to its loss; the great moral drama of humanity, which all repeat, but only from one point of view, the spiritual, the ancient point of view of wisdom, which must be carried into the whole of life, also into the physical life, the physiological life, the social life, into all these things which are the most simple of the development of the human life.

For example the child, feels this impulse to act, to help his mother when she works, and also to do this when she is not working, but people do not understand him and hence do not garner the good which he does to save himself; but without noticing this, that is, not profiting by the impulse, men generally precipitate themselves in the child's service, it is they, the adults who substitute themselves for him to perform the actions which the child would wish to perform by himself; for example, it is they who dress him, who prepare all that is necessary for him. One might say that this is a kind of temptation for the child. He wishes to save himself but there is a temptor who says: "I will do it, you will find it all done." Now the aim of the child the intimate aim of his life, is not that such a thing should be done, but it is to



do it himself and practise himself in performing an action that perfects him; that is his instinct. For example, the child that fills the bottle of water and carries it or fills a wheel barrow with stones, and transports them, does not have as his aim that the water be in that spot and the wheel barrow be in that place, but his purpose is to make that action since this is the satisfaction of his life which must grow, and to grow he must practise. So that if instead we confuse this aspiration and think to content the child by letting him find everything done, we do not respond to the child's needs, since the child does not feel this need of being washed, having soup in his plate, but feels the need of washing and laying the table himself. He needs to develop his life, not to find things ready. When therefore, the adult hinders him from developing and severs that which would be a source of life in the child to give him things prepared; he is a tempter. His actions may be compared to the temptations of the demon which make all appear easy, where there is spiritual life to be lost, and let everything be found ready in that which requires the effort which is life.

When for example, we prepare for the children in the schools an environment that we think adapted and special for them; for example, desks which are very heavy so that the children can move as disorderedly as they will and the desks will not move (and even the strength of the adult is not sometimes sufficient to move them), and give them utensils of iron so that even if these fall they do not break, or when we give the child made of stuff, so that even if they are thrown on the ground they will never break, we allow the child to perform a quantity of disordered and erroneous movements without his being aware of it.

I have often seen nurses in the public gardens looking after a child sitting near them with one of these little bears made of fur in her hand, so that he might play without breaking it, without destroying anything. Just as the seducer would do who seeks to mask the errors, so that the person shall not become aware of them and be lost, to keep silence, to hide all the mistakes, till the error grows ever greater, becomes fixed and deepens.

In fact we see that the children little by little as they grow in the schools become always more ill graced, while they should have the potentiality of becoming always more perfect in their movements, while

their material muscular strength has been growing they have done nothing to refine all these movements, to render them graceful and harmonious, which would represent the inner perfection of the personality. There is also a sentiment of avarice that drives us to this. We are afraid that the children will waste things, spoil them, breaking them and throwing them on the ground, while we repeat for example: "We wish to do everything for the children, what would we not do for the children?" But then we are afraid that the child will break a plate, a tumbler, upset a chair. Thus we come to be really like a demon near the children, and the child cannot rebel against this being that draws him to perdition although caressing him, being full of cajoling for him, multiplying her care of him. In fact what could be more affectionate, than for the person who has charge of us to foresee our wants, make us find everything already done that we wanted to do, and everything ready? Like the tempter of the fable who said: "Now what do you want? Do you want a kingdom? Do you want the world? I will immediately find you what you want." In doing this we hinder life, the child, near this affectionate person who does everything for him, feels a rebellion, because his life cannot expand, he has not the natural outlet of his life, which wishes to expand in doing that work, and he becomes irascible with this person. Then we say: children are naughty they rebel especially against the people who are most good to them. The more good they are to him the more capricious he is. The more they do for him the more rebellious he becomes. In what would the goodness of the adult consist in this case? The adult's interpretation of it would consist in being indulgent to this anger this rebellion, remaining always in the same attitude, hindering the developing life of the child. The goodness that develops in the adult by degrees as the oppressed child seeks to rebel with his changes, with his anger, consists in patience, and many times we see for example a good kind woman, who has a number of children that make a deafening noise. These children however can not do anything that they want to. The goodness of this person consists in patiently enduring this anger, and we say: this mother is a saint who from morning until night endures these ungrateful children and we say that this person is good, as also we say that people are good who are lavish in the care of the children; for example a mother who, when she gets up, gives all her children their

bath, combs and dresses them allate. And then we see that all these children are awkward and ungrateful, and we say, "This woman is a saint, is very good, and has great patience and these children are bad precisely because she is so good." But is this conception of goodness true? Is this our goodness, when we say, "We must be good to children." And the goodness we must have to children is perhaps this patience to support the rebellion of an oppressed life, although continuing the oppression of the life. This is certainly not goodness, goodness must be different from this, but we need not therefore say that goodness is an absolute mystery. Certainly, that is not goodness which consists in patiently supporting the mistakes of others. In this case goodness would consist in giving the child the conditions of his development, so that he suddenly becomes tranquil, serene. In fact, taking this little truth and putting it in practice; and thinking that the child needs to make these simple useful movements which we hold to be servile, but which are the means of conquering a higher step in his existence, merely understanding this so simple truth, we obtain in a moment the child's peace. The child is serene and happy, and the patient person no longer needs to exercise their patience and their goodness on which they prided themselves is useless; there remains only the joy, the contentment, the happiness of seeing an environment calm and full of that feeling which the child evolves when his intense life can unfold. One might say that taking a speck of the truth of life all problems are solved indirectly, and also the points of view are changed of goodness and badness which we had before. Merely from this little partial point of view of life, we can see that that which we called good was not good, and neither was the badness bad, but we might say that the parts were transposed. That individual was good who rebelled his life being oppressed, because his mission was to develop his life; while the patient person was not good who in reality allowed the life of a human being to diminish and be degraded, while they covered it with pleasantness, such as caresses and sweetness the substitution of one's own life for the life of another.

This little fragment of truth puts into practice, the fact appears that all work with gladness. One might say, "Serve the Lord in gladness." This truth appears, entered into the way of life even in a simple detail, there appears a joyous labouriousness, without

thought of vanity; service is done with delight, work with gladness, the child works happily.. and the mother is happy to see him, the teacher is happy and all goes on in peace..

There is a phrase in the New Testament that might explain this conception.. When for example,, they say to Christ: "Are you good?" He says "No, One only is good,, the Father.. " The Creator is good;; and that is goodness,, to create life.. Patience and meakness are not good,, these are consequences and means of goodness, but goodness i issingle ,, crea- tion,, and in creation is goodness,, since that which gives life is good.. Hence this other sence of the word,, goodness,, consists helping life,, aiding creations. That is goodness,, to help beings to live,, thar is the nucleus,, the fulcrum of goodness.. All the rest then follows by itself,, as from a fountain; and there comes peace,, mildness,, diligences, etc.: but this peace,, this gentleness, this diligence, if they do not come from the true spring may be mistaken. Who judges goodness,, therefore, by these may err,, that patience, that gentleness may be in certain cases desroyers instead of helpers of life.. It is not there- fore,, genyleness, goodness, patience that spring from that fountain, goodness, and which must come from the fountain of goodness to be true virtues that assist life; if not , they can also be the means of death.. In fact seduction seeks its ends with all the appearances of goodness, of beauty, of perfection. These are means that can thus belong either to good or bad.. Goodness is not this: goodness is to help to live.. Hence where goodness is to help life intelligently is must be beclothed in a form of wisdom.. We can see men as they advance in our civilisation who become erudite in goodness,, and deepen these words that we have repeated lightlt so often: badness and goodness,, deepen them with a great work of the intelligence.

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Lecture of April 2 7th 1914

Besides the question of independence that is closely connected with the principle of liberty in education there is another question which I put strictly in relation with the same principle; the question of prizes and punishments. This is a much discussed question by nearly all pedagogists, and I am certainly not the only person who combats prizes and punishments, but I believe I have a different point of view with regard to this question. It is precisely this point of view of liberty.

i As is known, there are various opinions among educators upon prizes and punishments. Some think the immediate fact of the prize and punishment towards the actions which the children make to be absolutely necessary. These would be the persons in favour of prizes and punishments. Then there are other people who say that one ought not to give the prize and punishment, that the good action done ought to be e.g. the prize, and the bad which follows from the mistaken action, the punishment. For instance the high ideal to be reached may be the prize for man, more, must be true prize for man. Thus the punishment may be merely the sense of having done wrong.

On the other hand there are persons who are in favour of the immediate prize and punishment, who say in opposition to these second that children cannot have this high ideality as a stimulus to be good, cannot feel these interior rewards for the good done, nor the opposite for the bad that they have done; and hence something material and tangible is necessary especially in infancy, which can



guide children to do what they ought to do .. This series of opposite opinions that all know, have something in common have however much they seem to be opposed; and it is , that the child and in general the man , must necessarily make efforts , be continually making sacrifices to go by a difficult way to attain the purpose which is the necessary purpose of our of our social and human life. And for this effort , some say that it is necessary, to give the immediate prize and punishment others instead that the prize and punishment are internal.. But the picture of the man who has to do something, and; who cannot reach his finality without this strenuous march, without this kind of narrow way which man must tread to arrive at his finality ,-- this fundamental principle which is a principle which is a condition of life , this is what nearly all those who speak upon this question of prizes and punishments have in common especially when this applies to the school may, remaining entirely in the narrow field of the school..

Hence it is easy to put this conception in a few words.. In the special and limited field of the school, whatever be the opinions of pedagogists who speak for or against prizes or punishments, all agree that the child must do those definite things that we oblige him to do in school.

These definite things that he must do have the stimulus of the immediate prize or punishment , or else he does them because we make him understand that it is his duty , that is meritorious to do so , that it is his- to go against his duty and a dishonourable thing not to do so . The principle always remains fixed that the child must as an absolute dogmatic and fatal necessity which it is not necessary to discuss but which must be accepted as a principle,-- must do those determined things that we have thought we must make him do in the school, that is, the children must make the effort that we require of them.. This is the dogma.

Now in the oldtime schools e.g? where the children had to make an enormous effort at school, where e.g.. they had to learn by heart all that the teacher thought that they should learn without any other consideration taking only this special activity of learning every-

things; in those schools which one held so much worse than to-day where the suffering of the pupils was much deeper, at that time the question of prizes and punishments could hardly be discussed, for it was obvious that it was necessary to these children to make them make that immense effort. It was at that time that there were the most pleasing and pompous prizes and also the most cruel punishments such as flogging.

One thing like the other, the prize like the punishment, had the same meaning, had the meaning of producing that effort. Who succeeded was given a prize, who did not, so was punished, but it was always a case of driving the individual to make that effort.

Thus for example, those who drive horses want to make them go according to their desire, now they caress them and give them pieces of sugar, now they beat them, but it is always the same principle, that the horse should do what the man wants.

There are means of incitement, of showing the prize and the punishment, but they are all means of slavery, upon which are based the most diverse and contrasting opinions upon prizes and punishments.

To-day in our schools, the prizes and punishments of former times no longer exist, for example the great prize days are abolished, and also corporal punishments, at least by us in Italy, are also abolished. But we always speak of prizes and punishment(s), in fact how would it be possible not to speak of them?

If I were asked to give an opinion I should say that prizes and punishment are of the first absolute necessity in our schools, and I could not support their abolition as long as the schools remain as they are to-day. Because I think of what hygiene tells us of our schools; it tells us that the children of our schools become hunchback, myopic, neurasthenic, speaking of the physical part. I wonder how it is possible to force children in an environment in which they even suffer in their bodies and skeletons, unless something forces them, the prize and the punishment.

All the subtleties that are made in this connection upon the significance of the prize and punishment, are according to me, all vain. For example, being myself declared against prizes and punishments, I am told by many that in reality I give prizes and punishments, for ex. when I say to the child "Bravo! You have done well!" I give him a prize, and on the other hand, when I take away the object which the child has since he has not done his work well, I punish him, simply because, when I say; "This is wrong." I show disapprobation, give punishment.

Certainly interpreting things thus, one might say to abolish the punishment and the prize, it would be necessary to abolish life, since in life there is continually approbation and disapprobation.

Hence it is not upon these subtleties that I intend to found my conception, but it is upon another fact which is not particular but general that is not limited to the prize and punishment in itself - the fundamental conception upon which we wish to erect this principle.

I am against that servitude which leads the child to make an effort contrary to his nature, for which force is necessary, to drive him by punishment, or attract him by a prize.

Therefore I say that the question of prizes and punishments is the question most closely connected with the conception of liberty, and it is by the solution of the problem of liberty that according to me, one can respond to this controversy upon the opportuneness or not of prizes and punishments.

All know that in this question there is the basis of moral education, because it is thought necessary to impose a force upon the child with a moral purpose. For Ex. that he must absolutely not do the things that he ought not to do, and also that one ought to become accustomed to making those efforts that will always have to be made in life when the individual is grown up.

I believe that this question can be very well illustrated in its principle conceptions, by other questions, by other analogous problems, which have all been resolved by science, for Ex. all the problems that refer to the hygienic education of the child, and especially to feeding.

In ancient times, fairly recent in history but ancient in form of civilisation, in which standards of infant hygiene had also not become

habitual forms of existence, there were in relation to the fact of feeding and physical education, all those prejudices which exist to-day, also in regard to intellectual nourishment, and to the intellectual exercises, and to all the intellectual life of the child in his effort of absorption. When for ex. there was no rational alimentation for children, the moral question immediately arose. It was said for ex. that the children must become accustomed to eating all kinds of things, because when they were older they would also have to take all that was given them.

One never knows the future, and it is well for man to accustom himself from childhood to be accustomed to eat whatever should be his lot. In view of the future eventualities of life, even the rich child who can live well ought not to do so, for who knows if he will not find himself poor or weak, and unable to face the necessities of his existence? Thus for ex? meat was given little children, or else soup that was not well made and the child did not like to eat it. If the child refused his parents said; "No you must get used to eating this because we give it you." The child did not want to eat it, but the parents who believed they were bringing up the child well said "You do not want it now, I know, but in a few hours when you are more hungry I will send you this again." It became cold, but after a few hours time the child came to ask for it, and then the parents said, "There, your will is broken and that is a good thing. It is good for him to accustom himself not to be fastidious.

Thus, for ex. if a child was naughty; "To-day you shall only have water, you shall not have wine." Or else, "You will go to bed to-night without supper." or, "You shall only have dry bread."

A thing which they tried to banish from the child's diet was sweets for they said sweets make him greedy. It was not good moral education to give the child this bad habit, whereas if the children were exceptionally good they might be given a sweet, and this was a coveted prize. Thus, morals, prizes and punishments, were all united to the alimentation of the child.

The fact of not knowing the laws of nourishment and infant hygiene implies a fact of profound ignorance like that which brought about a high mortality among children by errors in feeding, this ignorance led to arbitrary feeding, and we took food by caprice as a means of prize and



punishment as a means of that moral education, which it is the prejudice that we have that we can by violence, make men moral at our pleasure, using this special violence in the age of infancy;

If eg. someone who had the same education and the same ideas at that time, could come to-day to modify his conceptions in this sense that we have a responsibility toward the child as regards feeding and also that it is not good to punish and reward children in the sphere of their food, and supposing that he had no deeper culture than this and asked us our opinions case by case, saying eg. "Well but what do you propose to do, when, eg. you see that a child is naughty?" and refuses his soup? ought I to cede the point entirely, allow that the child wins, or could I make him understand that it is not good to do this?"

"Are you in favour or not of giving sweets to the children?"

We have thus, a series of questions that we understand to-day as completely useless outside the subject. All these details have fallen away; these problems no longer exist; since today there exists an infant hygiene which gives precise and certain rules, so that to be arbitrary is no longer permissible. Discussion is no longer possible, because problems no longer exist. The child must be fed in that particular way, ought not to eat in the same way as adults. According to the laws of infant physiology, the children really must take a great quantity of sugary substances, according to their instinct, because sugar helps the tissues in course of formation and especially the muscles of which it is the principle food during their development. All these facts enable us to base the alimentation of the child upon scientific principles which principles represent the means of saving the physical life of the children and making them more healthy and better able in the future to resist the causes of decline which man can meet in the environment. The idea that the child who is accustomed to this kind of care in his infancy, must thereby become a man of weak stomach, this idea does not occur to us.

We do not think that the child who to-day must have that given ration of food in order to grow into a robust man, can be reduced to the unhappy state eg. of the diabetics, or the sufferers from nephritis, who have to have a special diet without which they die, become ill, or,

have auto-intoxications. This idea does not occur to us, because we know that to make the man strong it is necessary to make the child robust, and to do that we must know scientifically what is necessary for him, because when the child is robust being much more rationally fed he will be a strong man who will be able to endure fasting, eat what comes to him without being ill, face better than another the infection which he will certainly have to meet with in his environment. It is the cared for child that will undoubtedly give the man who is physically strong. Now this question is at a completely different point from the old. And in this new field we do not answer one by one all the objections of the old, but on the contrary simply change our position, entering this other field, and leave all the objections behind in the former one. We have no need of drawing them after us; it is like a change in a system of ideas. There, was a prejudice, caprice and ignorance, here there is the science of hygiene, the evident salvation of life.

He who should wish, owing to a moral prejudice, to prepare men for the troubles of life, by putting them artificially in the troubles of life he who should have this idea to-day and should make the child go to bed without supper or have him eat dry bread, we should feel these persons to-day to be committing a great crime, that they were socially inferior. The responsibility that is born within our conscience under this point of view is of a precise nature; our responsibility is undoubtedly that of taking care of human life.

I believe that also in the case of the intellectual life of the child, the situations and the resolutions of the problems are quite analogous. It is positive science, the science of observation, of the study of the child's life, it is this that must reply to the question of prizes and punishments, unless this question also is left by the wayside. It is in short, to completely change the ideas that we have upon the school which is necessary, I believe to reply exhaustively to all the objections that exist within this question.

In fact, the first of observation of the pupils have thrown much light upon the moral significance that we gave to prizes and punishments, since evidently prizes and punishments derive their greatest importance from the moral point of view. It is desired with prizes and punishments to impel the child to work; and to drive him to perfect



his work, and also to do good actions, - these which we consider good. This is the purpose of prizes and punishments; it is the idea of being rewarded, or the fear of being punished, or else emulation between the pupils, that is to influence the child to become diligent, constant in work, until he finally takes pleasure in work, loves his companions, is grateful to the teacher, and is a good son at home.

Most simple observations have been made, which at once began to throw a little light upon this question, for ex. the doctors who have realised that among the children who were put at the back desk in the school, because they did not answer the teacher well, and above all because they made so many mistakes in orthography from dictations, which mistakes were so incorrigible that the teacher had abandoned them and put them on the last desk. Among these children there were many who were deaf.

Going into the hospitals where children go to have nervous complaints, it often happens to us doctors to have to seek information about the school life of the children, that is to say, the opinions which the teachers have formed about them and their way of behaving.

Now almost always when a child suffering from that disease which is commonly called St. Vitus' dance, and consists in the fact that the children cannot control their voluntary movements, but have continual movements which commence with low intensity up to the point of becoming a kind of general convulsion, - which is the time when the mothers take them to a doctor; - with these children one finds that they have been punished for a long time by the teachers because they always moved, although the teachers inflicted punishment after punishment.

There are then children, who need electric cures, baths in the sun, etc., a stimulating hygienic cure which is very complex, for which there are sanatoria to-day for nervous children; well, it is heard said many times, "These children have always had the prize for good conduct." To-day it is well-known that there exist categories of children which differ very greatly in their psychic development. There are intelligent children, super-intelligent children, and those who are backward, deficient and mentally inferior.

Among these there are the epileptic who have a habitus epilepticus children who cannot keep still, impulsive, of bad character, and all these are collected with the normal children. Where instruction is obligatory, men of all physiological characters are collected together

with the normal children. Where instruction is obligatory men of all physiological characters are collected together during the period of education. It is well known that special schools are beginning to be formed to-day for abnormal children, who have been for a long time to the ordinary schools together with the normal.

Now the normal children are undoubtedly the ones who have received the prizes, and the abnormal children, the backward children have been those who have been punished: received punishments for their intellectual deficiency and also for their so called moral conduct.

One of the interesting enquiries made in recent times has been that upon the social work done by many children of the elementary schools before school hours; that is to say, there are poor children, who, the morning before going to school do much work, for instance, take the milk to the houses, do the shopping, work at a hostelry,

These children come to school already tired it has proved that almost all these children are inferior with respect to their other more fortunate companions who are intelligent, come from a family which has fuller means to help them, who arrive at school after they have slept having had a good breakfast, helped by the tenderness of those at home who come to school after having studied their work and who receive prizes. Then these are the other children who have an unhappy home, where they must perhaps suffer hunger and lack of sleep, and who have worked, have already economically earned their bread for the day perhaps they have been a material to their parents and come to school not only having suffered, but also worked. And these are the punished ones the ones helped to be inferior.

If we think that this total of injustice can be the stimulus to moralise mankind, so also that we must imagine the idea to be of a remote time in which the light was not; made; it was in the clouds of ignorance that this misunderstanding was possible, that prizes and punishments so considered in the school could be a means of moralising the new humanity.

But other points less profoundly dramatic than this may be considered, e.g. this principle which is thought necessary for the obtaining of good results from the instruction of the children, the principle of



revelation -it was even said in early times when the placing of the deficient children in special classes was being talked of, that this would have been harmful, because finding themselves with more intelligent children they, by emulation, would have been able to have done more. When there is a prejudice it is difficult to find the limits between the things logical and illogical, because the prejudice obscures the mind of whoever judges, and then one can even pass over this fact, that it is not possible for an imbecile to become a normal individual by emulation. What can emulation do in a school where there are side by side children who have potentialities completely diverse from the biological point of view, children profoundly diverse as to intelligence, as to physical resistance, as to complex aptitudes of the personality? Evidently it is an illusion to suppose that the very intelligent child, praised and rewarded by the children, can be a stimulus to the deficient, who forces himself to act but cannot, who feels within himself for a short time this seed of struggle, and who very quickly exhausts himself, because he feels that the struggle is superior to his forces. The more we make the deficient child feel that beside him there is the normal child, who, in an instant, without effort, accomplishes the work which he seeks in vain, with every sacrifice to accomplish, the more the latter is oppressed.

The same thing occurs when we feel timid, daunted in our forces, on finding ourselves beside a person whom we believe to be far superior intellectually to us. It is necessary to convince ourselves that emulation is not possible amongst persons between whom struggle is not possible because the forces are profoundly diverse. This fact has shown itself that if there is something which helps the child to develop himself and to increase his scattered intellectual qualities, it is the stimulus of praise, of encouragement, of which we all have need. Now only to put the deficient child in a group apart, and this custom is sufficiently diffuse in the civil world, this alone is enough to give an alleviation to these forces, so that they can expand, and also emulation in such a case can then be cultivated between children who are all backward. Thus for the children who are nervous, impulsive, and whom we call incorrigible, the naughty ones of the school, towards whom punishments are useless in order to correct them. Well, these individuals are evidently children who have low nervous powers, scarce powers of the will,

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scarce inhibitory powers on account of a condition of congenital nervous weakness. There are those inclined to epilepsy who may become epileptics, who may have great nervous maladies; it is well-known to-day from the hygiene of nervous maladies, that these children need great calm in order to re-invigorate themselves, and hence to have more vigorous powers of will. Thus for ex. the epileptic children, the impulsive, are put in very quiet schools where they never morally, have any irritation; a great gentleness together with the physical care. The calm of the environment, the silence, the special light and all the other things which serve not to excite a weakened nervous system, all this is put in these schools, so that the children can study and become good, in the sense that we use the word, that is calm. They are agitated, and the quiet environment calms them. Instead, in the ordinary environment of the school, we wanted to better these depressed nervous systems with punishments, constantly irritating these children with injustices, making them note this weakness which they would rather have wished to hide. It was in this way that we believed to be able to cure sickly children. These questions are too obvious, it is too easy to understand that it is not with punishments that we can remedy the weakness of humanity depressed in its powers. It is easy to understand that it is an injustice, this persecuting of those who are already persecuted by nature. We ought instead to help the fallen to nurse themselves, with all the means that are possible. Science in this, gives us many means and great light, and this science we call hygiene.

But the fact regarding the normal and rewarded individuals is not so clear. The question of the rewarded normal man, like the question of moral inferiority, which we must surpass, just as we have surpassed the question of punishments for the weak (and this has been brought about by the science of hygiene) this is not equally visible, and I believe it to be really the principle part, since the care of the weak is certainly something which imposes itself on our conscience, also socially, but it is not the great fundamental question which we must set before our conscience in all the great question of the school.

Our children, healthy, normal, intelligent, good, whom we cover



with rewards, not only the reward at the end of the year and with praise, whom we put in a state of satisfaction, these children whom we put in this state of satisfaction, these are the children who should summon our attention above all. Let us think of a normal child who has come at first in an environment where there are abnormal children, weak ones etc. Who is he? A child full of force, contented and satisfied at having conquered the weak.

This has put him in a state of calm, which consists in the fact that he will not seek the effort to develop his powers further. If he had really a class of individuals, the elite, and if we could divide many classes for every intellectual category, perhaps we could say; there should be an emulation between these children which would incite them to effort. But there should also be a scientific idea of this effort, for ex. we say to the child who is rested, well-nourished, calm, that he is good, and we praise him in such a way that he in his own conscience believes himself to be good, all the more as he sees naughty ones around him, and this elevates him and makes him think; I am superior to these -- danger greater than this we could not imagine for an individual who precisely by this quality shows us that he is normal, that is, full of energy. So also when intellectually he can do that which the teacher gives to be done, and he succeeds in it without effort, and we praise him for this, and he believes that he has done all that he could do, what greater offence can we give to a normal individual? because it is as though we were to say to him; enough, that which you have done is sufficient to make you good and clever, you have done all which you could do. Now has he done all that he could do? We should think of that which we have done with weak children, the backward, profiting by a special method of education, so as to be comparable with the normal children of the ordinary schools, the paralytic children, who have been able to strengthen themselves with sun baths etc. so as to be able to do that which normal children do. These children whom we considered inferior, with a moral re-education, even though criminal, even though they had already committed criminal acts, had succeeded in becoming good in the sense of not hurting others, like the normal. We had the tired, the weak, the outcasts of humanity, breathe in a certain way, led to a certain effort, these children come to almost overtake even those individuals whom we maintain to be normal, clever, rewarded, good. Then what does this mean? It means that individuals can make efforts much greater than we think, from the moment that

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the deficient can become almost intelligent, the paralytic can walk, the blind can read, the dumb can speak, the criminal become an honest person. What then cannot the normal man do, the normal child? Evidently much more than that which he does to-day. He has such a potentiality as to be able to surpass those inferior children in such a way that the comparison between one category and the other would no longer be possible. We cheat this child because we put him in a state of rest, we let him sleep, in such a way that he believes that he has done all that he could do, whilst he has not done anything if the inferior children have overtaken him. Here is the fault, here is the pedagogic problem. Because the normal powers are precious forces, and normal individuals represent really the multitude of men to be educated. Voisin, a French doctor, mentions that in the school of his idiots there was an imbecile boy who always sought to choose in the running competitions as his competitor, a little companion who had very short legs, a dwarf, and was very happy to always arrive first. This is the satisfaction of the imbeciles. Let us think that we give a satisfaction such as this to the normal children who are contented to walk naturally with their long legs and beat the child who has short legs, but all that which the healthy child could do with his legs does not develop, because he is content always to be the first to reach the goal. This fact of being able to reach the goal easily without effort, the fact that the arrival depends upon the comparison with others is so dangerous that it becomes the delusion of all social beings, so much so that some authors have made stories and romances of it, with the object of amusing children and to make a satire on the customs of the times. There is for example a story called "The King of the noses." A King had a long nose, and a neighbouring King was to come and pay him a visit. He was ashamed of this and so his Ministers said to him, "We will go through the whole kingdom to search for the men who have long noses. They found some with enormous noses and brought them together round the King, so that he seemed to have quite a little nose. When the other came he was not impressed by the nose of his colleague but only by those of the Court, and the King was satisfied. His nose had not changed at all. Well something very similar is that which many normal individuals do in ordinary life. This fact that the nose could not change itself is a term of comparison; instead the normal individuals can change their qualities, but do not do it, because they find it more convenient to take to subterfuges; whence comes



cunning instead of the mobile forces of the normal man, who ought to better himself, increase his qualities etc.

So for ex. there are some young ladies who are not very graceful, and who, instead of perfecting their grace seek the company of the most awkward whom they know. There are great professors who speak fairly well but instead of perfecting their oratorical art, they have many lessons given by their assistants who stutter. This fact is so common that it represents one of the defects which almost becomes lost amongst the habits of society, and represents a great damage, the greatest danger that can overspread humanity; because men are contented to get accustomed to not making any effort whatsoever, and to cutting a fine figure. This is the logical consequence of the moralisation of rewards and punishments. In the state of affairs as they are understood to-day, the reward and the punishment may lead to these results, that is they may lead to the result of making the normal individual with effort go on a path so irrational that he become deformed both in intellect and spirit. It is all this deformation which we want to give with force, and it is because of this deformation that they are so feeble, ignorant of the great force of which they could dispose. And the profound problem of the new school without doubt is this, the possibility that the great forces of the normal individual develop. Perhaps also here there is a problem, let us call it hygienic, which can give the first basis to the question. It is not to reason about rewards and punishments, but it is to put a new school on a basis not different from that of which hygiene has already given the forms for saving the body, (absolute principles arising from the positive study of life) and also capable of protecting the development of the psychic life of the child.

It is with the liberty of the school understood in this way that the laws of life can unfold. The school where there is not the effort required by men, arbitrary, but where there is instead there is the effort of nature, which effort is instinctive in life, which grows by a great force which it has within it, so that it surmounts all the obstacles, it is this school that we should contemplate, not the singular and particular questions, it is the fact of the reality that also in the psychic life there exist laws and aptitudes, strong and powerful, which lead the child to develop himself in a given way, which is the way of life. Thus

we began to do with our children who had reached precisely that which the old school wished to attain with reward and punishment, that is they worked persist in work, are calm, love the teacher, are good in the family, love one another etc. all things which were not attained by force, but which come spontaneously when life is left to develop by itself. Besides the fact that these children have a great energy, a capacity for work, in the aptitudes, as that of the attention, or the repetition of an exercise, and this has been the consequence of leaving them free, that is to say, there has occurred the multiplication of their forces, which is no other than liberty left to the natural forces to expand themselves. To help these forces is what we can do, and in such a case, the need of pushing them with rewards and punishments falls away and one must go on the path which follows their instinctive impulse. We have always failed when we sought to give the children rewards and punishments, because according to our old prejudices, we also tried sometimes to use the reward and punishment, and became aware that really the life which is expanding has no need of our rewards because it has the reward within itself. I remember when I wished to make the first attempts at the lesson of silence. I wished to make an examination of the children's hearing with the whispered voice, as we do in clinical work with the slightly deaf, and I wished to see if the children heard when I called them my name, in a whisper, and I thought, "I do not know these children." From the psychological point of view I did not yet know the soul of the children which they have since revealed to me, and therefore I thought; I must promise them something in order to make them come, and I said, "If you come when I call you, in a low, low voice, and you are very attentive to hear your name called, I will give those who come a little toy, a sweet," according to the things that I had prepared. And I called these children and saw them anxious to come at the call of that voice, they came on tip-toe, trying not to make any noise. I had these things in my hand because I thought they were anxious to come and take them, but they did not take them, because they were filled with joy in having succeeded in walking in silence. Even the little children of three years waited until the other, about forty, had all been called, ever intent so as to hear their name, and then when all had been called, they



heard their name, they came softly, softly, and I remained with my hands encumbered - then I perceived that it was very vain, that it was wretched, this attempt, this error that I had made in wishing to: give something external, where instead a life a force was being born which I ignored. To me this was a great revelation ..

And in this way I found another similar mistake when I wanted to teach the children to read for the first time. I had bought for some miserable children, born of the lowest class in Rome and who had never seen a toy, the most beautiful toys at a price which would have pleased even a rich child. I made quite a collection of them and then I said to the children: "I will show you some little pieces of paper and if you can understand what is written on them (the name of a toy was written on them) I will give you a toy and you can play as long as you want." They came at first and took these toys, but little by little as they learnt to read they said to me "Is it really necessary to take the toys? Have you no more little cards?" And then these little cards multiplied to such an extent that we had to give them to the children in a long box where 10, 20 hands came anxiously to take the cards until the box was entirely empty. They stayed there an hour without becoming tired of opening the little cards to read. This great conquest, this pleasure of understanding a new language - to have understood the signs on these pieces of paper was that which made them happy in that work - which was marvellous because it was a revelation of new laws of the soul of the children, and we retired ashamed with our toys, just as onetime a lady retired who brought some beautiful golden medals with red ribbons for the children, and said to the teacher "These you shall give to the best children". A little boy of four, who knew that he was good, said "But not to the boys!" He felt himself to be good and thought within himself "It will come to me but I do not want it."

Thus another child who received from the teacher of the class a big and splendid medal. It was a big silver cross with a blue ribbon which occupied the whole chest of a clever child who had some splendid work so that the teacher had thought: "There should be an extraordinary prize for a child who does such extraordinary exercises". I found this child, who was suffocating, going from one part of the room to another dragging objects behind him, and he seemed engrossed in this work.

All at once the cross fell to the ground, and a child whom the teacher had punished, making him sit in the middle of the room, picked it up, looked at it, and seeing that nobody said anything to him, said to the rewarded child, "

"Did you see that you dropped this,?" And the other, "

"Leave me alone," and he said it in the tone of person disturbed whilst doing a work of great interest. And the other again-

"But I shall put it on."

"Do, what does it matter to me?"

So the other put the cross on triumphantly. This is an experience which convinced me of the common error into which we had fallen when we wanted to divert the soul from the course of its free development - to give the child our little miserable toy, the gift which serves the slave and which the free despises because he knows that really the prize of his life is to live. It is only on the road of death that there can be this kind of glass of water for the thirsty, a little comfort in an immense quantity of injustice but when it is the whole life what can we do with a glass of water? Now we see that these children not only work and do all that we wish to obtain with rewards and punishments, but, they also do more: they reveal to us the secrets which had remained hidden in the depth of a subjected soul of which we were the tyrants. We can do naught but contemplate the marvels of the life which unfolds. Should we perhaps think what will become of this child in the future who runs along the path of life, when he encounters obstacles? We may think that he will be better able to surmount them than the weak individual, just as the well cared-for child will be the man with the strong stomach who will be able to digest anything, who will be able to go as missionary as explorer of the Pole, or the explorer who will be able to go into infected places without taking the infection, because he has had a strong and robust life, and will be capable of resisting diseases. Logic tells us this, but we can also see in the development of life that it is thus, that there is no direct preparation for things but it is the life which developing prepares in all its periods the forces of the successive periods. For example, to make the child robust before his birth what should be done? Something completely indirect: it is necessary that the mother lead a hygienic life. It is the fullness of life



of the mother bearing in the purity of the exactness of the laws of life which will form the most perfect creature. When the child is born what must be done? Should we set ourselves the problem how to prepare his spirit, will he be a strong man capable of struggling, or will he be a weakling? No, we should prepare ourselves with this nourishment that it may be good, because it is the perfect nourishment which will prepare the successive strong periods of the life of this child. In fact the child having the perfect nourishment will walk sooner, while if he does not have perfect nourishment he will walk less quickly, but it certainly is not the nourishment in itself which produces this. This preparation is indirect. We only say that the individual must completely fulfill the laws of the present and that this prepares his forces for the future. And when the child in life commences to develop by himself, why preoccupy ourselves with whether he will be a moral man or a delinquent, a strong or a weak one? We do not need to concern ourselves with anything but that he develop in the best possible way in the present moment of his life, because it will be the perfection of the preceding period which will prepare the forces of the successive period. And it thus that also, absolutely fulfilling the psychic laws and going in the paths of the spiritual and psychic life, the child, with this fullness, obeying the laws of the present moment will prepare the moral forces and the goodness of his future life. Because it is thus that life develops perfecting itself, and his perfection goes on up to death. This then we could say that the individual who has developed well physically, is well born, has grown well, will have the coronation of his life, the joy of having produced a son strong like himself, who recommence to grow well in each of his periods, assuring thus upon earth the eternity of the existence of a lineage. And he will gain little by little, making the alimentary period perfect, the perfection of the first consciousness and perfecting this the perfection of the successive periods. Thus we can say spiritually, that given the most perfect liberty of life in the first period, one prepares the strong soul, the balanced and robust intelligence for the second, and if the human soul has social aspirations, it could expand, when the liberty of its life could evermore mount in magnificent understanding, completing the whole cycle of the physical, psychic and spiritual life. This is what gives the



prize , the crown.. "Come and take the crown which was prepared for  
Thee in eternity". But for this prize we have need of certain princi-  
ples , of certain facts during existence ?= It is life which gives us  
joy, and this mystic crown=for which man can aspire as the end of exist-  
ance, is the consequence of great joys, of great struggles , of great  
satisfactions which a normal man can have who has developed freely  
in all his potentialities ..

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✓ *Lecture 78* ✓

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✓ This version of Dr. Montessori's lecture, being the translation by Miss Pyle ✓ of the report taken down viva voce, Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of the report is authorised for the personal use of members of the class.

Lecture of the 25th. March.

In general, when the practical method of education is spoken of we infer the work which the master must do to instruct others, the children. It is surely an embarrassment to begin to talk of a new method without putting it into relation with the old; at the same time, in order to be put into its relation with the old it needs to be understood, and to draw a parallel between one thing which is known, which is very nearly understood and another which is not understood, is not really the best way, the logical way, to begin; but we are obliged, by the short time to go by a path not always exactly artistic in its precision and progression. Then, I am speaking to a group of persons so intelligent that I can pass over some details of procedure, which makes it quite possible for me to expound these ideas in a few months.

It could be said that the manner of giving a lesson may contain in itself the method of education; since up to this time, to educate a person has always been according to this mode - that a mistress gave lessons to the children - (speaking of the education of young children) and this mistress herself had to give to the children some cognitions and lead them wherever she will. Teaching is always so in schools. It could be said, however, that this manner of teaching in the schools has had two periods: a period in which the master was almost violently disposed towards the pupils and the pupils had to do what the master willed, perforce; and another period in which force has been substituted an art, indeed, everyone speaks to-day of the art of educating, of the art of teaching; and it is a true and distinct art, often also a dramatic art, also a moral art to divine the wishes, to proceed according to the wishes of those who listen, etc.



This, our period can be called that of the art, the period of artist teachers, and I believe that a new period is preparing itself, in which, on the contrary, to educate is no longer an art, but a science. The difference between the present and the future, I believe will be just this; that, progressing in the scientific period, the mode of education is completely changing; it can no longer be the master who teaches, but the phenomenon must come to pass, the phenomenon of development. It is an entirely different thing, as diverse in its absolute mode, as it is absolutely separate in its direction.

Indeed the old method was very near the same thing as the existing one, the times when it seemed quite right when the child should be beaten and the times in which the child becomes possessed by an artist, take the same direction, are following the same course. It is always that the master teaches from without, and it is always that the child must learn as the master wills; and what the master wills, so that men can arbitrarily determine the things that must be taught to the children.

In the scientific period, on the contrary education must entirely change. The child must develop himself, and the individual who wishes to educate the child must be servant to this development, the development must follow its natural laws, not the laws of the Minister of Instruction. And if there will be an art also in this scientific period, this art will be something different; rather, in the former period whether or not there should exist an art, did not matter much; that is a fact which is changing. Now, if this thing which is now forming is also to be accompanied by an art, we shall see in what will consist the differentiation of this art, that certainly what needs to be emphasised is the absolute separation of the two methods.

In this art of our times, there are some intuitions of truth which have been found to be such in the scientific field of education; but these truths which are intuitions of kindly persons who have felt the truth (There exists this sensibility to truth, just as there exists sensibility to the beautiful) have given a few principles which are repeated by all. Now this is a strange phenomenon, people repeat these principles so by heart, as if they had learnt them, and in practice do quite the opposite, almost as if they had no perception of them. So that, if in the olden times, of those of to-day - if you will - there are some intuitions of the truth - liberty, giving a few clear ideas, permitting the child to develop of himself, etc. These ideas are as if they were somewhat analogous to the phrases, for example, found printed in some modern cells; "Following the paths of virtue, will make a man happy."

The people have within the mind certain charts, that the practice is quite another thing. For as much as I may not be very practised in the method which exists to-day in the schools, I say not profoundly practised, but I am not wholly ignorant of it, first, because I myself have been educated by this method, second, because I have had occasion to refresh my memory, having been in the schools while I was working with this method, third, because I studied Philosophy and pedagogy many years after having become a Doctor of Medicine, therefore I, not as an authority, but as a dilettante can speak of it, and then, in speaking of it I shall not depend upon myself but upon things which are written in regard to it.

Now, I should like to set forth the mode of giving a lesson which to-day is in use in the schools, and the mode of giving a lesson which I illustrate in my method, in order to give a first fundamental idea of the difference between the two directions.

In the school of to-day there is the prevailing art, and not only one form of art, but more than one form. For example, I hardly know, in the dramatic art there are also several forms, so also in the art of teaching. One of the forms, which is the principle one, and the one most in use, is defined by Ardigò, who is one of our greatest philosophers of these times. Ardigò says "The art of teaching school consists chiefly in this, in recognising just to what point and in what manner the attention of the pupils can be attracted. The most able teachers are those who never fatigue a fraction of the brain of their pupils, so that their attention being now here, now there, rests, and then stronger, returns afterwards to the main theme of discourse."

Therefore it is a question of fixing the attention of the children and of imposing ourselves upon them and for this there is wanted an art, there is wanted ability. Now, accordingly, whoever follows another perforce, becomes tired; the ability will consist in this, in making the attention repose while it is held? And how can the attention repose while it is held? If we are speaking of the theme, well, there are made ever so many entanglements collateral to this theme, so that in these collateral entanglements, the pupil rests himself and can return fresher to the principle argument, constituting the chief theme of the lesson.

To-day, as it is evident that this art also is insufficient, it is thought to make the lessons short and to make the pupils repose completely very often in order to repeat afterwards; but always the programme is this, to entertain the pupils, not one pupil but the collectivity, a thing certainly difficult, and hence a difficult art.



Let us think of the difficult art of an orator who speaks to the public, the orators speaking to the public, talks to adults, who usually of their own will submit to the martyrdom of listening to someone make a speech with some aim, all the same, adults who have already trained their minds to do this suffer in following a person who speaks for an hour. If this person then has no art in speaking, the suffering of whoever listens becomes heroism; the thought cannot be followed; all that the person says cannot be understood. One's interior energy, one's mental energy is not sufficient to follow him. If then, these adults, rather than going to hear someone speak must listen to him perforce, of necessity, then the art of the speaker would need to be absolutely sublime, so that the whole hour these persons would redign themselves to listen; but if this orator should not content himself with giving a lecture every now and then, but every day, the thing would become burdensome. If then, this lecturer instead of giving a lecture every day should speak for three or four hours in succession it would be said "We cannot, we cannot, if it could be , if it could be the most illustrious artist, if it could be Caruso, we could not do it, because our strength absolutely does not permit us to follow you. I have a strong command within me which tells me to follow myself." Whenever the individual does anything, his mind is active, and rests only when he sleeps. He always works internally, but he is not conscious of this work as wearisome; this work only becomes wearisome when, instead of being obedient to these laws of nature, instead of following himself, he must follow a rule. Macbethall we say then, of the children, when they are condemned to this ( as it happened a short time ago) to study three hours in the morning and two hours after dinner, at school, to follow this master who never stays quiet a moment, who speaks continually of so many things, certainly with an art; but that is always the same and that becomes a routine, a routine in the tone of voice and a routine in all those pretences to which the master resorts in order to make himself heard; and this routing becomes like a music of three notes, which are repeated always, always, so, for hours and hours, for days and days, for weeks and weeks, and also for the whole life, for all the youth. Certainly there must be beatings as in the olden times, or a great art which must drag the children to stay in these schools.

There is another sort of art, this art consists in holding a lively interest. Certainly this must be a great art, a greater art than the first, certainly a progress in the history of the arts of teaching. Instead of maintaining a lively attention, a lively interest must be



maintained in the child. It is very nearly the same thing, but there is this difference, that in the interests, it can be said, there is a deeper attention, while moreover there is an external attention, and the child attends to the problem which is born within him, and there is no longer only the master who seeks to attract by some arts.

Then the master teaches not directly with gestures or with a pleasing voice, or with objects with which he helps himself to retain the attention; but on the contrary, he seeks to bring about a work within the child who listens. He puts some problems to be resolved. Instead of saying directly what he wishes to say, almost taken by respect for the personality of the child, he lets him say this by himself, instead of giving him a thought already made, he lets the child make this thought for himself. Also the child works in this case, but to do what? Perhaps to construct himself? No, he must construct within himself whatever the master has within himself. The child must not think in his own way, but must think as the master wills; and the master acts in such a manner, that in the child, in short, there must come to pass whatever the master wills. It is an art, more laborious than at first, more difficult, and higher. In fact, the first art, we find in the infant school, the second in the elementary school.

Now in order not to put myself too much like an intruder in the field of others, I should like to read what persons more experienced in this method, do. There are some model schools in every nation, and there are some persons more or less elect. These persons are often impelled to publish their modes of progressing, and, as in this case, the lessons; and then it is so that we can know what is almost perfection in this art. For example, in Italy, conventions are held, in order to spur on the teachers to perfect the art of educating the little children. Prizes are given at the conventions and the best lessons receive prizes. Now, what I will read will be a lesson, given the prize, by a consensus of persons who undoubtedly, ably and intelligently, are the most competent in the matter, because chosen as a jury they have given a prize.

Here is the prize lesson. The teacher of an infant school, of a Froebelian Kindergarten, wishes to teach the children, wishes to give the children the idea of hot and cold. She says, first of all the teacher

states a theme and says; "To give the perception of the idea of freezing cold in contrast to that of heat, and that is enough. For ideas are not cigar stubs to be tried one after another, but sublime psychic facts of great complexity, and therefore, most difficult of assimilation". In short, the teacher says that she needs to give only two ideas to a little child, because this is already a great deal to a little child. It is here that she makes a theoretical statement, a principle. To give few ideas, to give only two contrasting ideas to the little child so they, the ideas, follow clearly. This statement is the theme which the teacher prefixes.

Now this teacher evidently does not recognise the difference between practice and theory, because she adds, "I am resolved together with the idea to be assimilated to add also the culture of the sense of compassion and of pity for the miserable ones to whom winter is a cause of so great suffering."

Then here, there no longer enter only the two ideas of hot and cold, inasmuch as hot and cold are two ideas, simple and exact, hot and cold; and pity for the poor is certainly another thing. To give, together with one idea, therefore, a large series of ideas, at last to arrive at the moral, here is the reality of the action. This is moreover the custom in nearly all the lessons. This, it would be said, is the end, the aim, which, instead of being intended to be laughable, is intended for a serious closing, a moral conclusion. If she speaks of hot or of cold, of clocks or of tables, the object is always one only, to find a way to moralise.

One of the most cruel observations which are made on my method, in the sense of saying that my method is cruel, one of the observations of cruelty which are made on me, is this; "But you do not give moral education! But how do you treat the moral side of children?" Especially when I was teaching the children of the San Lorenzo schools, who were children of the lowest population, many of whom were sons of criminals, every one used to say to me, "But what do you do in these schools to teach morality?" Because this is the custom of all persons who give lessons.

Let us suppose that this might be true, let us suppose that, for example, morality could be given, so, by speaking; let us suppose an assembly of immoral persons; very well, I give a whole discourse on

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morality, and all go out from here having been made moral. For example, I hardly know, there are some criminals in a prison or some little children in a school, saying to them, "Love virtue," well then, those children, having been made moral, how they go home and also make their relatives become moral!

Admitting even that it might be so, nevertheless, it could never be said that by this mode are given two exact ideas, hot and cold. This, no, absolutely! Then let us not touch on the part of moral education, and let us remain at this precise point, to give two contrasting ideas to the little child, this is a principle to be recognised and repeated: very well, let us give these contrasting ideas; but, now let us read the development.

"Children, how comfortable we are here! Everything is so clean, everything in place, I am so fond of you and you are so fond of me; is that not so, children?" Answer, "Yes, yes." Then she adds, "We are really very comfortable here, over there in the corner is something which sends out so much" -Children "It is the stove." "But outside where there is no stove there is no heat." Children, "It is cold." Teacher. "Last night while we slept, while possibly your mother mended your clothes! Last night softly there fell from on high many, many white flakes" "The snow, the snow!" exclaimed the little ones. Teacher "Children let us say, a great many flakes of snow fell. How beautiful the snow is! Shall we go out and see it from near by?" Children "Yes, yes! but it is so beautiful, we will want to take some." Teacher, "And are you not allowed to take it? To whom does the snow belong? (no answer) Who has bought it? Who made it? You? No. I? No. Your mother? No. Did your father buy it? (They look at me in astonishment for these are strange questions) No. Then the snow belongs to everybody, and if that is the case, we can take a handful."

Here is the moral; "Before putting our hands on a thing we must show that it is not the property of others." (Evident signs of joy) I will give out at once (the children have not a box in which to keep their material) the little boxes you made yesterday (Better means for having them comprehend the usefulness of work) they will the snow. (While I act, I talk, so as not to let their attention waver. I will also

take mine, which I made with you, it is larger than yours, and so, which will hold more snow, mine or yours?" Children "Yours!" Teacher "Let us get a nice white handful will go in your boxes. What a delight! (They all start out) Let us stop a moment; how comfortable we are here! Let us put a hand on our faces. How warm the face is, and how warm the hand! Let us see if when the hand has touched the snow it will still be warm". Children. "It will be cold." Teacher "Of course. (going out) How beautiful it is! It fell from above, heaven has given the earth a magnificent robe, all - " Children "White."

"At this point, my children, having been originally entrusted to that principle of sane and ordered liberty" (especially in the Italian newspapers, when they speak on liberty with regard to my method, they seek to define well, to make precise "sane and ordered liberty" in order to distinguish it perhaps from another, which is the best coefficient of the formation of the characters of these free children.) "Which is the greatest value in the formation of character, touch and pick up the snow and some break the crust in the form of a design. I let them alone. It is only a minute for I quickly call back their attention. Teacher. "Children, I too, want to take some snow, but together with you. Still! Erect! Look at me. Let us take away a little piece of the great white robe! Let us put it in our boxes. Done! (re-enter) Oh! how cold! The children who are coldest are those least well clothed, poor little ones! And those who are at home have not that thing full of coals." Children, "The stove." "How cold they must be! Go quickly, quickly all to your seats. Put the box on your desk. How cold the snow is! Have you noticed how cold it has made your hand which was warm?" Children, "Mine is cold, so is mine!" Teacher "But we have brought with us something angelic, which is called? "Snow." And what does the snow send forth? You remember?"

You remember? because they must know by memory what it is that the snow gives forth? It is perhaps an antiquated method.

"It gives forth heat."

And here begins again a parallel story in order to give an idea of heat and cold.



Now here the teacher has had to entertain the attention of the pupils by making so many deviations, (on the horizon, on the veil, on the white robe, on the outskirts, on the completed work) in order to fasten the attention, on what? On hot and cold. But the children know it! It is so very simple, they all know it.

Then on what does one wish to hold the attention? On something which they all know, but if they know it, why do you wish it? Then, do not teach hot and cold. And why make all this deviation, simply to give the idea of hot and cold. Now it is very simple! It suffices to say, This is hot, this is cold, that is sufficient. There is no need of deviating, because the time is infinitesimal, it is a moment, it is less than a second. This is HOT, and this is COLD. To deviate in order to make the child's mind work on an idea, to deviate in order to make the child's mind work is useless, because it is the teacher who makes all these speeches, not the child. It means that the teacher leads the child's mind for a walk across a motive, which is the motive of HOT and COLD; the mind of the child does not proceed alone in this walk, but is guided step by step by the teacher. It could be said that as the little children at one time proceeded, supported by strips around the body, under the arms, for walking when they could not walk alone, so in this case, it is the mind of the teacher which drags these children who, by themselves could not make this gyration of the mind, and the teacher leads them by force to make this gyration of the mind.

Here is the lesson in liberty, according to the ideas. The child, then, does not travel freely with his mind, ~~but~~ travels, conducted in his thoughts. For what purpose? The purpose, that, the teacher knows.

The other art is certainly elevated and more interesting; In this the activity of the child is respected, in the sense that it is not the teacher who thus imposes his mind and says to them; "I take you for a walk". No, but without restraining them with braces, he says to them simply; "Come with me, come with me." and follows behind the child. But the child does not go by himself; only the teacher does not hold him so



brutally with his ideas. With his fine art, he wants the capacity to be born in the child, and the activity of following him to develop itself, or rather he says, and this is perhaps one of his illusions, "I, while I give knowledge, do not wish only to give knowledge, because the aim is not that the child should have knowledge, but the aim is that the child should develop himself; therefore I wish, whilst I am giving knowledge, to develop the activity."

To give knowledge and to develop activity, here are two intuitive, just principles; and although the aim may be more that of developing the activity than to give knowledge, certainly they are principles intuitive of the truth. But I do not believe that the practical action corresponds with the theory, because to this theory one can answer with another theory; To give knowledge and to develop the activity are two facts entirely separate, one from the other. Knowledge can be given to an individual from the outside, but who can give the development? No one can give it. Development must come otherwise; and if it comes from another, then that is enough, and it cannot come from without. There should be another impulsion. When, for example, one says to an individual who wants to learn to ride a bicycle, "You should put your feet here, you should sit thus, you should use your hands thus" one is stating most exact facts. But before that same person may develop the capacity to ride the bicycle, he must do exercises; and he who would learn to ride a bicycle must do these exercises himself. There is a great difference between the giving of knowledge and the development of activity.

Nevertheless, I repeat, the principle declares itself, and is practised as a method.

Here is Tolstoi, who describes a lesson heard by him in one of the large Institutes of Berlin, who held themselves to be amongst the most advanced, by one of the most distinguished teachers. This teacher is giving a lesson in teaching.

Tolstoi describes the teacher "Calm, firm, he smiles at the class, the instruments are ready. Here is a table with some letters, some frames and a book with the picture of a fish. The master looks at the pupils, he already knows all that they must learn, he knows of what their

(The lesson about the picture of a fish.)

Tolstoi describes the teacher:-

"Calm, sure of himself, he takes his place before the class. The instruments are ready, some tables of letters, some pictures with tables, a book with the picture of a fish, Fisch. The master looks at the pupils; he knows already all that they have to learn; he knows of what their soul consists; and many other things which he learned at the seminary.

He opens the book and shows the fish.

"My dear children, what is this?"

The poor children rejoice on seeing the fish; if they do not already know by having heard it from the other school children or their elder brothers, with what sauce this fish is to be served to them, and how they will be tortured morally because of it. With all their might, they say,

"It is a fish."

"No," says the Professor, "What do you see then?"

The children are silent. Do not forget that they are obliged to keep quite still, each in his place, without moving.

"What do you see then?"

"A book," says the most stupid one.

Meanwhile all the bright children have already asked themselves over and over what it is they are looking at. They feel they cannot guess what the Professor demands, and that the answer must be, that the fish is not a fish but something they do not know how to name.

"Yes, yes," says the master joyfully, "very good, a book; and then?"

The clever ones take courage; the stupid one does not know for what he is being complimented.

"And what is in the book?" asks the master?

The more intelligent and brighter ones guess and boldly say,

"Some letters!"

"No, no, not at all," sadly replies the teacher, "you must think before speaking?"

Again all the clever ones are cast down and they hold their tongues; they do not even try any more; they are thinking about the Professor's spectacles, and wondering why he does not take them off or look through them, etc.



"Then what is ther in this book?"

They all their tongues..

What is it that is here,?"

"A fish;," says a very bold one ..

"Yes it is a fish, but is it a living fish?"

"No not living",

Very well is it dead?"

"No .."

Good?.. Then what is this fish?"

"A picture".

"That's it. Good?"

They repeat it: "It is a picture", and think the lesson is finished..

Now, it must still be said that is a picture which represents a fish.. And by the same route succeeds in making the pupils say that it is a picture representing a fish .. If he imagines that pupils are reasoning, and if he conceives of nothing other than making his pupils say that this a picture representing a fish .. or if he himself desires these things it would then be much simpler to force them to learn by heart this extraordinary formula. The pupils who should be left unlightened on this point would still be happy. I saw myself how he forced them to, reply to him that it was not a fish but an object - admirable - and that this object was a fish. This the art of forcing the children to think!

Next the word *fisch* (fish()) is shown made, of letters; in a chart.. The best pupils; the cleverest ones, think they grasp this and recognise the design and name of the letters.. But that does go so fast.

"What is it the fish has in front?"

the timids ones hold their tongues, at last a sturdy one replies p

"The head".

"Good, very good! And where is the head? What is it on?"

"In front"

"Very well, and what is there after the head,?"

The fish".

"No - think"

the timids ones say: "The body", "The tail" .. and at last.

But the pupils are losing their spirit and confidence in themselves and it calls forth all their mental powers to know to understand what the master wants.

"The head the body, and at the end of the fish? the tail- very well".  
They all repeat together;

"The fish has a head, a body, a tail. Here is the fish composed of letters, and here is the fish on a drawing:"

Suddenly he divides the fish composed of letters into three parts: H, I, seh. The teacher, with the pride of a conqueror who succeeds in throwing flowers to every one in place of wine, draws out the letter H shows it, and says;

"There, this the head; I, it is the body; seh, it is the tail."

And he repeats "Fish, ffff, iiii, seh shh".

(Montessori) Tolstoi himself speaks of a history lesson given by himself with very nearly this method at Iznaga Poliana; because he says, this was one of the lessons most admired by persons who came to study under him.

((The history lesson at Iznaga Poliana.))

(Montessori) The intention was to set forth the things in which Russia is distinguished from the other countries what are the frontiers, the characteristics of the State, to talk about the actual kingdom, and to tell under what circumstances the Emperor ascended the throne of Russia. And therefore he starts with the geography and goes on:

Tolstoi ), The teacher- "Where do we live? In what country?"

A pupil- "At Iznaga Poliana".

Another pupil- "In the fields."

The teacher- "No, not that. In what country is found Iznaga and the whole province of Tobolsk."

A pupil- "The province of Toula is 17 verstes from us. Where is it found? The province? That is the province"

(Note) The obscurity of this response is due to the fact that the word province in Russian signifies at the same time a certain division of territory and the principal town of that territory.

The teacher- "No, you are talking of the capital town; but the province is quite another thing. Very well; what can you tell me of the earth



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you inhabit?"

A pupil (who has already studied geography) "The earth is round like a ball".

By questioning them about the place where a German whom they knew formerly lived, but saying that if one should walk straight ahead without stopping, one would arrive at the point from which one started, the pupils were lead to reply that they lived in Russia. Meanwhile in reply to the question "If one walks always straight ahead, where does one arrive?" some pupils replied "One doesn't arrive anywhere" and others, "One arrives at the edge of the world".

The teacher (repeating a pupils reply) "You can say that one arrives at, another country. Then when does Russia end and the other countries begin?"

The pupil, "When we meet the Germans".

The teacher, "Very well, if at Tula you meet a German you know, do you say that it is the country of the Germans?"

The pupil, "No, that will be only when we meet only Germans."

The teacher, "But in Russia too, there are some provinces where there are only Germans, e.g. Ivan Fomitch is from there? and nevertheless these provinces are Russian. Why is that?"

Silence.

Teacher "Because they obey the same laws as the Russians".

The pupil, "How, the same law (n.b. the word Law is also used in the popular language meaning regulation). The Germans do not go to our church and do not keep Lent."

The teacher "The question is not of that law. They obey the same king.."  
Sienka? ((a sceptic pupil) "That is strange! Then they have other laws and obey the same king!"

The teacher feels the necessity of explaining what the law is and he asks: the meaning of "to obey the law, to be under the same law?"

A pupil ((a little girl very independent, who speaks quickly and timidly)) "To submit to the law means to marry" (n.b. The popular expression "to submit to the religious laws" equivalent to "to marry")

The pupils look at the teacher questioningly. He begins to explain that the law is, e.g. that if someone steals, or kills, they are put in prison and punished.

The sceptic Siemka "Does that begin with the Germans?"

Teacher "The law, that means also that there are in our country, the gentlemen, the peasants, the merchants, the clergy."

The sceptic Siemka "Doesn't that exist down there too?"

The teacher "In certain countries that does exist in others it does not. Here with us it is the Russian King, with the German people another a German King."

That answer satisfies all the pupils even the sceptic Siemka.

The teacher; seeing the necessity of passing to an explain of the classes, asks which classes the pupils knew: they begin to say "the gentlemen, the peasants, the priests, the soldiers" - "And then," asks a pupil - "The servants, the townsmen, the caldron-makers." The teacher asks about the difference between these classes.

The pupil "The peasants labour, the servants serve the masters, the merchants do trading, the soldiers make their service, the caldron-makers make samovars the priests say Mass the gentlemen do nothing".

The teacher explains effectively the differences between these classes but he tries in vain to explain the need for soldiers when one is not going to war against anybody; only in view of protecting the State from attacks, and the occupations of the gentlemen in the service of the State.

The teacher now attempts to explain the geographical difference between Russia and the other States. He says that the whole earth is divided into different States, that the Russians the French, the Germans have divided all the land and said to each other, "Up to this point belongs to me, up to that point belongs to you," so that Russia like the other countries has frontiers.

The teacher "Do you understand what a frontier is? Indicate a frontier to me."

A pupil, an intelligent boy, "See here, after the hill of Tourkine that's the frontier. (n. b. There is a milestone there, on the road between Toula and Iasnaia Poliana and which marks the beginning of the district of Toula))

All the pupils agree on this definition.

The teacher sees the necessity of showing the frontier by something



familiar .. He draws the map of two rooms and shows the frontier by which they are separated.. He brings the map of the village and the pupils themselves recognise some frontiers .. The teacher explains , that is to say, thinks to explain, that Russia has her frontiers as Iasnaiia-Poliana has hers. He flatters with the hope that all have understood him. But when he asks how one can know the distance from "us to the frontier of Russia" the pupils answer without the slightest hesitation, that it is very easy, that one must simply measure with an archine (a long measure) from that place there to the frontier. "

The teacher "In which direction? "

A pupil, "One must go right straight to the frontier; and write how many archines" ..

(Montessori) And he continues this lesson which Tolstoi criticises because he is making a criticism of this method.. He says the teacher did not succeed in making things understood on this manner, while it would have been so simple to tell the facts directly; Instead, before giving them, he wished the children to guess them. And this was a difficult task because it was a difficult to follow the teacher as there was evidently a great effort of the mind, which is not that sort of effort which develops the mind, but which forms the habit of guessing.. And also morally it is not very elevated, because it is evident that the child seeks to adapt himself to another's caprice.. The fact is that used to learn too easily what the boundaries of Russia are ..

To finish this series of lessons, another detail, which Tolstoi in his pedagogical studies, might be interesting- (The reading lesson at Iasnaiia-Poliana )

((Montessori) The reading of a selection is under consideration.. the children are rather large, from 9 to 10 years old.. The teacher reads a bit, and then asks the pupils what they have understood, and has them repeat in their own words what they thought was read. The selection read is this ; -

(Tolstoi) " All those learned people those of the seminary and those of the Bourza (nb.. Bourza is a special school where the priests and

where off the potatoes are prepared.)), between whom there existed some sort of hereditary hostility, all those people were extremely poor, in respect to the means of subsistence and, moreover, extraordinarily gluttonous, so that it was absolutely impossible to count the number of rolls each one of them ate during a meal. That is why the voluntary gifts of the rich people could not satisfy their needs.

The teacher, "Very well! What have you read? (Nearly all the pupils were very clever);

The best pupil, "At Bourse all the pupils were great gluttons, poor and at supper ate rolls."

The teacher, "And what else?"

A pupil (a sharp one who has a good memory and says whatever comes into his head.) "Nothing impossible, voluntary benefactors."

The teacher (vexed) "You must think! It is not that! What is then that is impossible?"

Silence.

The teacher, "Read it again."

Some one begins to read it again. A pupil who had a good memory still adds some words which he had remembered:

"Seminary, nourishment, furnished by rich people could not satisfy their needs;"

No one understands: they are trying to say perfectly absurd things.

The teacher insists.

The teacher, "What is it that is impossible?" He wished someone to reply: "To count".

A pupil, "It is the Bourse that is impossible."

Another, "It is the poverty that is impossible."

They read again, seeking like a needle the word the teacher wanted.

They found everything except the word "count". They were all sad.

Now when we make long speeches to the children, how easy it will be to lose some words, to lose the sense of the less easy matters; just as it happens to us when some people make too long speeches. Certainly we shall reflect upon this: if we think how the teachers become tubercular from overtaxing their lungs by always speaking (and these are statistics and this is a social problem;) - if we



think how the life of persons here are called benefactors of humanity is going away (( because of talking continually), without being able to complete that cycle of time which should still remain for it; certainly we must find ourselves facing a question much more complex than a simple question of school or a simple question of education.

Now because this theme is so fascinating I ask your patience for ten minutes more; - I would like, (I certainly cannot explain my whole method,) to say this; I should like just to give a lesson in concluding the discourse.

"Well, how do you give a lesson? Let us hear some of these your prodigies. - How do you do it?"

You will see that our lessons, given to these little children as a beginning, are generally very simple; some no words, try these which have words, e. g. the lessons which aim at, teaching something relative to objects as did the teacher who wish to track hot and cold. We could say which the hot one and which is the cold one. We would say; This hot and this cold, shewing two objects and making the child feel with his hand the temperature of the two objects. Thus, E. G. wishing to make him learn a square and a circle, we say; "This is a square and this is a circle." And, wishing to give an idea of the dimensions, we show two objects, one large and one small, and we say: "This large and this is small;" or wishing to give thick and thin, we show two objects which have these properties and say: "This thick and this is thin;" or wishing to give the idea of different colours, red and blue, we take the two colours, and say: "This red and this is blue."

In every thing we do it in this way and it is sufficient. They are ideas simple given. Surely this a matter which cannot but call forth smiles; but the teachers do not only smile, they say: you are making fun of us; is this a lesson?

It really is not the whole lesson because afterwards we say to the children; "Which is thick and which is thin? Give me the thin," and the child if he has understood gives us the thin one. "And now give me the thick" and the child if he has understood gives the thick one.

In this way we verify his having understood. We are contented. He has understood. We wish to give him these ideas and this we have



attained. We are satisfied.

Do we wish to see if he remembers these words? He might have been ignorant of them at first. Then we say: "What is this," and the child: "It is thin" and this? "It is thick".

He also knows the words. What more do we want? We cannot wish for more. Our aim has been completely attained.

What colour is this?

This is red.

And this?

This is blue.

Give me the blue.

The child gives the blue one.

Give me the red.

The child gives the red one.

What is this?

It is blue.

And this, what is it?

It is red.

We have attained the aim. It is finished. Certainly the teachers smile and say: "What will become of us in the school? Shall we go strolling around, saying: "This is a square, this is a circle, this is hot, this is cold, this is thick, this is thin, this is long, this is short, this is red, this is blue."

This would be to imagine that the differentiation of the methods lay solely in the differentiation of the modes of giving lessons.

In that case this teacher would be seen going around the school like a whirlwind crying out: "This is a triangle, this is a circle, this is a light." Evidently the practical differentiation cannot be this, nor is the differentiation in giving lessons. There must be something else. This lesson tends to give that simple and clear idea which the teacher wished to give, who on entering the school and seeing the whole of snow gave the lesson on hot and cold. We give simply, these two ideas: and then nothing else is done; something is awaited.

For example, it may happen that in a week there is said to a

child: "This is a square, this is a circle, which is the circle? and the square? What is this? It is the circle. And this? The square".

It is enough. For a week we give no more lessons to that child. So to another we simply say that this is red and this is blue and for four days we do not occupy ourselves anymore with giving him lessons.

And then, counting all these pupils, it happens that we say to each ten or twelve words a day. At one time we say to one: "This is thin and this is thick". Then to another: "This is red and this is blue." It is sufficient.

Evidently it cannot all lie here. Indeed if there were a simple exterior difference of this kind here, this method could not be, why should there be this school? Do the children do nothing as long as they have not heard this, or must the teacher go around continually talking, or must something come to pass? This other thing which comes to pass, is not the work of the teacher, consequently another fact does come about. This the important thing, which contains all the opportunity and all the essence of all the method. And this new fact is the spontaneous activity which awakens within the child himself.

This is the aim to be attained and this is the whole system. But the child, in those determined circumstances, at that determined age, in the manner which I will come to define, the child repeats by himself those exercises for a long time, an hour, two hours, a day, many days, and always repeats those exercises and not all those which are applicable to that lesson. What does the teacher in this lesson? She illuminates, she says something here and there; and the child will do all of the things presented; so he chooses and will exercise himself for a long time. Here is the differentiation.

Consequently the differentiation does not consist in the manner of giving lessons, that one gives three words instead of three thousand; but the differentiation is that one counts on an activity which must develop in the child, and not that the teacher changes his manner of speaking; but it is that the teacher gives a lesson and stops acting at a given moment and permits the child to act, this is the differentiation. Hence the action which develops is a spontaneous of the child rather than the action of the master who teaches.



This is the differentiation. Now, in order that this thing should come to pass, this force must exist in the child, this activity, this capacity with its laws, this life which we wish to develop: and what we are doing in that moment when we are giving the lessons, is to stimulate this life and illuminate it, because it is not only our work which stimulates it, but the child is directed by certain surrounding stimuli which are not our works but the didactic material: and the teacher only helps and when this force awakens, it awakens as a natural force, which the teacher should observe, should learn to observe, to respect it, to follow it in such a way that it may always be helped and never depressed by the teacher.

Here is the differentiation. And in order to have the possibility of putting this differentiation into practice, it is necessary for the teacher to acquire not the ability of knowing how to give a lesson of two words, but a faith; that she believe that she be sure that there is a life which has never been considered in the schools but which is potent and is that which guides all; and it is because of this action, of this life that there develops the man whom we ought to contemplate. And the teacher whom I conceive as a master of the science must therefore become a contemplator.

## Lecture L

~~Mr. Montessori's presentation among the members of the class only.~~

✓ This version of Dr Montessori's lecture, being the translation by Mr Claremont, of the report taken down viva voce, Dr Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorized for the personal use of the members of the class.

Lesson of March 30th 1914.

We have sought to find a formula for the method of pure biological science; namely to give the best conditions of life and observe them. This should also be the formula for a scientific method of education. In this sense one can speak of a science of education; putting the science of education on the same level and on the same method as a purely biological science. No other than giving the best conditions of life and observing it. These things when they are applied to the study of man, become much complicated than when it is a case of observing living beings of an inferior type; because what are then simple facts to be put into practice here become problems very difficult of solution. For example the problem of life.

We have to deal, in this short course, with the subject of liberty, which is like the fundamental motive of the exposition. But before entering the methodical development and before touching the various points of this principle of liberty, I wish to specify to define precisely the fundamental meaning of it. I mean by liberty, liberty in the development of life: To say that children must be free means to say that the children must be free to develop in the best way possible according to the potentiality of their life. In general the liberty which we must all owe to living beings when we observe them in order to construct a science upon these observations is to be understood thus: to leave the beings free to live, to develop, inasmuch as this alone can enable us to discover the truths that concern them. Hence I also speak of biological liberty, of liberty to live.

Living beings grow by themselves and reach a determined finality: for example the egg that develops and produces a completely developed being, follows a predetermined cycle, already established in the characters of the species.



in the character of the species.. To be able to obtain its finality-  
this is the liberty of life..

Undoubtedly, to begin to consider these conceptions  
to fix them at the beginning,, avoids many easy objections that occur to  
one who wishes to discuss the word liberty,, without having given it a  
definite meaning.. When for example people ask: Then, to be free, the child-  
ren must do as they like ,, ad litteram? Now it is useless to make this  
enquiry this principle being established that we must not give the  
children liberty in an exterior sense.. The children must be free to  
develop in the best way possible. Give the best conditions of life and  
leave life to unfold.

The conditions of life are of fundamental importance  
for life itself. The body lives in itself , but it could not exist  
alone without its relations with environment , which is precisely that  
which distinguishes living beings from inorganic beings; living beings  
are in close communication with their outside environment so much so that  
they cannot exist without this external environment; living beings must  
feed; that is take material from their surroundings and to develop must  
be necessarily subjected to the varied conditions of the environment..

Humidity, oxygen,, the temperature, the barometric pres-  
sure , electricity etc., are so many conditions necessary for the exist-  
ence of life, but above all nutrition and respiration. The fact of  
being immerse in a moist atmosphere is always, for all human beings, and  
also for our own bodies, an indispensable element.. When, therefore we  
speak of conditions of environment, we come to include these concepts  
in the other vaster and at bottom single concept of liberty,, because the  
being, in order to have the possibility of development must be  
placed in certain conditions of environment.

When we have defined, as we have this principle, that  
liberty consists in living completely,, all the conditions of life ,  
necessary to life which have reference to the environment , must necessary-  
ly be included ;.

Nevertheless we must clearly distinguish between  
the two things, the conditions of environment necessary to life, and  
the finalities inherent in life itself.. When the conditions of the

environment are perfectly adapted to the development of life, life evolves, but this life which unfolds is not in direct relation with the environment, but with itself.. Life develops according to its own finalities, according to the living being.

Thus for example, the plant as much as the animal has need of similar conditions of environment, but in one case we have a plant in the other an animal. The development of the plant and the animal does not depend in itself upon the environment, but evidently upon life. Thus there is one germ for example that will give an insect there is another germ that will give an amphibian, another germ that will give a higher plant. That which is inherent in these germs, that which is their property, is that their activity must be free to evolve, in one case to form a perfect insect, in the other an amphibian, in the other again a perfect plant. It is true that these germs could never develop if there were not in the environment those definite conditions of nourishment, of respiration, of pressure, of temperature etc. but the fact that these germs give this definite life is not in direct connection with the conditions of the environment..

The facts may therefore be separated, although all are included in the principle of liberty. We must distinguish between two things; to give the best conditions of life - and this is undoubtedly a necessary thing with which is united the development of life; and to leave the being free to develop..

The help which we can give to life for its development refers almost exclusively to the environment.. What can we do to help a life to develop? We can give the best conditions of life, help it to obtain the best conditions of that life. And more than this we cannot do.

Suppose for example, we examine the egg of an amphibian, that of the common frog, and observe this egg develop through the characteristic metamorphoses.. First a tadpole comes with gills with which to breathe in water and a long tail, then little by little the legs grow, lungs come to take the place of the gills, the tail is absorbed etc .. All this we see evolve by itself, these are the phenomena of life. The egg must be free to be able to give all these beings



that transform themselves from one to the other, for such is the life of the egg of this animal. We can give this germ of life the best conditions, and that is all. And we must stay and watch what happens, observe and study all the metamorphoses. We certainly cannot help the tadpole to absorb its tail before the time, we cannot help it to put forth its legs sooner, we cannot give it its lungs before the time and thus make it breathe sooner out of water. These are the phenomena of life, life has to evolve according to definite laws. This is the liberty of life. We can only give the conditions of the environment.

Thus, when we wish to cultivate the silk worm, what do we do? We give the egg and the being which develops the best conditions for its life; nutrition, a given temperature etc; then we wait for beings to come from the egg that transform themselves one into the other. We can at the most for industrial purposes arrest the complete transformation of the insect, prevent the completely developed insect from issuing as it naturally would, since it will thus spin the silk threads that we wish to take. Hence what can we do at most? Arrest life at a given point when it suits us kill all the other phases in order to take the silk we can diminish life for our purposes, but we can never cause the being to modify its particular life. There will always be that cycle in time and in form, that cycle that is established by nature and is the finality of that life; life which will evolve so much the better as the conditions of the environment are more favourable.

So that to leave life to develop completely up to its limit, also requires on our part a certain respect for it. We must not interfere, since if we interfere we cannot do other than destroy part of life itself. If we could really model life according to our ideas we should be quite other beings, we should be creators. But we can only be collaborators of nature helping by artifice as regards the environment that which nature would have to give by itself.

If we apply a similar conception to man and lay down this, for example as a principle that man must be given the best conditions of existence and that we must leave life to develop and respect this life, not interfere knowing that intervention can destroy, but not help life, we certainly enter a field much more complex than we have in

the case of inferior beings.

But we also have a field which is nearer to us, where we are ourselves the experimenters, and this must help us very much not only in the understanding of the principle, but also in its practice. When for example, that scientist, with great effort, studied maternal love in a spider, he could see from without certain facts which he interpreted as love, saying; there is a force in nature, let us call it love, which protects the animals in course of development; but in the case of man we can penetrate into his life itself.

Never can a scientist however much abnegation he has in his quality of observer, willing for sacrifice and patience (both virtues proper to the scientist) no one will ever be able to know what takes place within that being that we can only observe from without.

But in the case of man we can penetrate to the depth in the interpretation of life, since it is not only the external phenomena that we can gather, frigid data to put in a chain of study, but we can enter to form part of life itself, and to make the deepest of it, penetrating to its innermost. If the scientist observing the insect could that, he would believe he had given an immense stimulus to experimental science; certainly he would have perhaps transformed it, it would no longer be that experimental science which arouses enthusiasm only in its consequences, in its products useful to humanity. But to penetrate this mystery of creation, to attain such intimacy with things, we cannot do, except in one case that is in the case of the human being.

When we apply that old dictum; give the best conditions of environment to living beings, this forms part of something well known to us, because in reality it has always been a great aspiration for man, not only to be able to obtain the best conditions for his own life, but also to give these conditions to others; to other men. And this has been called, for example, charity, the great beneficence of the world, which is a force of life, and which always when brought to other men was accompanied by something interior by love, the love for our kind. These are the natural phenomena that our study reveals when we say; let us give men the best conditions of life. Let us notice what happens if for example, we should think to take a section of



society, two hundred families of men, like some entomologists follow the life of two hundred families of insects, and say; let us give these two hundred families the best conditions of life, we should do something which would signify a great benefit for a great number of men. We should have produced an improvement in the life of these two hundred families who were not formally in good conditions; we should have produced an immense magnificent amelioration, not only giving the material basis for a better life, but giving rise also to moral effects, to an intellectual awakening, towards the complex growth of the whole of life. The fact of giving better conditions of life to man, need not therefore be considered purely as the experiment of the scientist; it also represents the social effort of the some of civilised men. One might say that progress itself, civilisation itself is a thing which tends to realise these terms, that are again the terms of scientific experiment, namely, the best conditions of life. In fact one may say that the history of civilisation is a history of improvement in the conditions of life. Men have not progressed only in the abstract, but they have progressed seeking the best conditions of life. At the bottom of all the great progress, which has so many forms there is this. In reality our present day civilisation, which shows progress from so many points of view, intellectual, moral, etc., is a civilisation that has succeeded in realising for the greatest possible number of men, the best conditions of life. That which at our time was limited to private initiative, for example, charity, is becoming established in practice as a form of society. For example, at one time it was said that it was charitable to give food to the hungry, to clothe the naked, welcome the pilgrim, but to-day we do not consider this as something limited to individuals, but that all humanity should be fed and clothed, that all should have houses.

The solution of these problems is the product of civilisation itself as all the progresses of various intellectual and moral kinds are products of this civilisation. But above all in following the history of improvements in external life, we also follow the history of new forms of liberty, that men have had when better conditions of life have been obtained. We then see something new, something

great develop in man, which could not unfold before. For example the wellbeing of the state is united with the progress of the arts and literature, since without this wellbeing the genius also is limited; so many powers that might have opened out remained instead in prison. Thus when there are conditions of life still better, by which all men can reach certain states of life which represent the necessary form their existence, the average level of their production of the whole of humanity grows, and then we see men able to produce as much as formally could only be produced by a genius.

But it is not exterior civil progress that has given us better conditions of life; there is another factor, the development of the activities which were imprisoned, and can now be free. The progresses of men, which make them always freer are not certainly progresses given by one man to another, but are progresses given by the activities of men who can live better than they could before. In fact we do not redeeve the progresses of to-day from the men of past centuries, but we have a creation of progresses, the intefion of the men who can develop.

Leaving a theoretical field and one in which there is much to discuss, we can limit ourselves with speaking of this principle in the most elementary and simple way possible, to fix this idea that is a basis of all the others; give the conditions of life.

For example to: give the conditions of life to the vegetable kingdom, what does it mean? To give the conditions of life to plants, means giving them the possibility of nourishment, respiration etc. and in fact, what is easier than giving the best conditions to plants? All modern agriculture is based upon this.

What does it mean to give the best to animals? animals also have a vegetative life entirely parallel to that of the plants. In fact they also must take nourishment, breathe etc., but in them we have something different from the plants; animals have spontaneous movements, animals in distinction from the plants which remain motionless; and this difference is certainly externally the one most tangible. If we say that we wish to give excellent perfect conditions of life to the animals, we can no longer limit ourselves to giving the most perfect conditions of life for the plants, for example, give the



animals, we can no longer limit ourselves to giving ourselves the most perfect conditions of life for the plants, for the example, give the animals the requisite food, oxygen, temperature, but we must also give them the possibility of moving in the way that is natural to them. This also a condition of their life, more, it is the chief characteristic of their life itself. How could this life be free to develop in its fullness if we prevent precisely that which is characteristic of the whole animal kingdom, and distinguishes it from the vegetable??

Thus for example if we put a plant in a pot and give it all the conditions of life, and this is a rose plant, the rose will bloom thrivingly; we may say that this plant has its conditions of life, and we can it in all its characteristics since this plant is free.

But if we take a bird and putting it in a cage, give it all the best food, the food most suitable, and give it also the conditions of temperature that are suited to this animal, we cannot certainly say we have given it the best conditions of life, for we have prevented it from moving, which is characteristic of the life of the bird.

How should study the life of the birds would not put the bird in a cage? If he did he could study perhaps the anatomy the physiology of the bird's body, but to study the bird in its real life, one must be able to follow it in its natural life, and this is a life of motion. If we remove this part of the birds life, evidently the word itself says, which means the opposite of liberty, and which comes immediately to the lips, this bird is imprisoned is a slave, outwardly and materially. It has become a slave not only from the biological point of view, since this living is really impeded from, responding to the finalities of its life, but also in an external sense we say: this is a prisoner.

Thus for example, if we should take some bees and put them in a little box as they do with the singing-grasshoppers, and prevent them from sucking the flowers, from making honey, from making the comb etc., we should not give them the best conditions of life, although we had given them nourishment air, and all that is necessary for the vegetative life, since we have prevented the bees from realising the appropriate finalities of their life, which are not only those of

nourishing themselves and breathing, nature having given them the task of constructing their own dwelling and of producing in that construction a work which we make use of. And so this being, taken by us in this way, would be a prisoner, not free, would not have the conditions of life which are best for it.

Thus if we put lions in a cage and give them a great quantity of food, that food which they themselves hunt with such effort and contest in the state of liberty; we think thus to render them very happy, giving them without effort what they seek, for example, an abundance of meat and fresh air to breathe, but at the same time we prevent them from moving, from making that struggle which is their life, inasmuch as it is apparently made for the conquest of food, but is in substance the response to an impulse which is characteristic of their existence; with all this we have not given the lions the best conditions of life, we have made them slaves.

Now, making beings slaves, for example the animals, to whom motion is forbidden, we do not only make these animals unhappy because they cannot move, but we cause a diminution in their physical resistance, that is, the food, the oxygen and all the other conditions of physical life even though put in such abundance at the disposition of these creatures do not give the living being the physical resistance which these same substances could give if the being were in the state of liberty.

An impoverishment therefore occurs also in the vegetative life of these animals, one might say that giving freedom to the bird in the cage, giving freedom to the lion, we help them ever so much more in their physical life, than by trying to nourish them in the best way possible. No one could nourish these creatures so well, no one could benefit them more than by allowing them to move. If the greatest benefit that we can give the plant is that of giving the best conditions of vegetative life, the greatest benefit instead that we can bestow upon the animal is that of leaving free to move, because it is with movement that the animal finds those substances that are used for its vegetative life.

Movement must therefore be the point of view that



must guide us in the search for the best conditions of liberty for an animal. In fact what does the scientist do who wishes to study the animals that move. He keeps still, so as not to hinder them from moving freely, when he really wants to seize the truths which refer to their life..

We ought to admire this motion which as we have said is the marked characteristic of animals in relation to the vegetable kingdom, movement that is something more than the vegetative of the animal. The fact of being able to move includes all the rest of the vegetative life; the animal will move better having the best physical conditions. The best physical conditions immature it will find by itself, and the two things are interwoven and go together..

If however we wish to find the best way of freeing an animal, we must certainly help it to find its conditions of vegetative life, but then we must leave it free to move. The conditions of vegetative life must not be overlooked, since if the animal should not have the materials of a conditions of material life that are peculiar to the vegetable kingdom are included in this other necessity of life, which is the necessity of the animal to move. For the free animal to develop fully it is necessary that it should find not only all the conditions necessary to the vegetative life, but also these other more complex conditions, ~~summing~~ which we arrive at the result that the animal must be able to move.

Now we know that man is a being possessed of something higher than the animals. In fact the life of man is not included in this, that he has a vegetative life and moves. Certainly all this is included in the life of man as the vegetative life is included in the life of the animal, but we cannot imagine that we have given liberty of life to man and given him the best conditions, of life giving him all the conditions necessary to vegetative life and leaving him free to move. The characteristic of man with respect to the animals is that of having a complex inner life that is characteristic of humanity. Inner life that begins with the phenomena of intelligence and includes a whole complexity of conditions. He who should limit himself to giving to man the conditions of life of the animal, could not

correspond to the complex needs of his life, he could not say that he had given the best conditions of life. The man who was not in conditions of liberty for his inner life would become a slave like the bird in the cage. Now he who should wish to find the best conditions of life for man would have to take as a fundamental point of consideration, this inner life that is characteristic of humanity, which to be free concludes all the other forms of life as, for example that of the vegetative life and of the life of movement. This must be the fundamental turning point of the liberty of man, to leave this inner life free to develop, because it is the only life of man; the other is the life of the animal and the life of the plant. This is the life of man. In this must be sought the liberty of the human being. Coming to consider the inner life as a life that develops and has in itself the characteristics of man, we have to repeat for this life the same principles that are repeated for the other conditions of life; to give the conditions of life and leave it to evolve.

Now this interior life also is connected with the environment just as the physical life, for example the intellectual life; this also in order to develop draws nourishment from the environment and grows, taking from its surroundings. The whole life of man is closely united with this environment, just as is the physical life; so much so that life could not exist if there were not this taking from the environment.

There are then these relations between the environment and the inner life that evolves, intimate relations, so that we may say that if there are conditions of environment favourable to this inner life, the inner life itself cannot evolve, hence the conditions must be given of the inner life.

When we speak of liberty and of conditions of life for the child, we must have this inner life in consideration, we must consider that this life exists, to which the environment must correspond providing its conditions. If we give nothing so that these conditions shall be present in the environment, we abandon a life to itself, whereas we must offer this inner life everything as in the exterior life, food, special conditions of temperature, pressure, electricity, precise



conditions measured according to the needs of life itself. ~~for~~ This for the exterior part - and we may say that it is the work of education to give these conditions of life and then to leave the life to develop freely by itself.

With regard to this point of view we have many confused ideas and many prejudices, at least I think so, this is my conception; We think to make it ourselves?.. this inner life of the child's, not to find ourselves in those conditions that are parallel in all ways to the physical, life, that is, the necessity of giving an environment with favorable conditions. This is one part, but then life develops by itself, reaches certain finalities which are its own and to which we can do nothing. When we have given the means of existence, we can only watch; which however is very different from abandoning a life. On the contrary, we must cultivate this life finely and with precision, give it all the means of existence and then leave it to unfold by itself, for there is within man an organism that also develops according to its finalities.

Thus for example, when, with our method we offer the children precise means for gathering from the environment that which is necessary for the interior life, we do something similar to the hygienist and what he advises when he says; Give the body of the child that definite food which corresponds perfectly to the finalities of life, and measured by experience to those determined limits and in that given quantity, which are those and no others that aid the best development of the child's body. But it is not the measured quantity of milk, and it is not that nutriment that we consider most hygienic that makes the child thrive, but it is the body of the child that becomes healthy, that develops that grows according to laws of growth. There is a wide distinction between the hygienic food and the fact that the body develops perfectly. The body develops perfectly by virtue of its life, however, for this life to develop in the most perfect way, we must give it from the environment that definite food and in that particular way and then leave the child free to the greatest extent possible.

Similarly, from the point of view of the inner life, we are bound to give food, more, to measure it, define it as much as

possible to the end that it shall be necessary, sufficient, and suited like the physical nourishment to the age of the child, but when we have done this, we must leave life to develop and we cannot do anything to make this life develop differently from that which it can do according to nature. We cannot alter any of its manifestations e.g. the manifestations relative to the age, and all the other manifestations characteristic of this life. We cannot alter because they follow their laws. We can only give the best conditions of environment.

At first this lecture seems obscure, because it is the development itself of the idea that will illustrate it. With this talk I cannot attain more than a single aim; that of fixing an idea; and it is the fundamental idea of all, that is, that the relations between our actions and life, are not direct but only indirect, because life can never obey us but must obey its own laws, and we cannot do other than assist it.

And this principle that arises so evidently from the physical life, must be applied also to the psychic life; they are analogous phenomena, and the principle is the same. When we speak of the liberty of the child we mean to say that it is necessary to give completely the conditions of life to the child, conditions that are not only those of the vegetative life; and then we must leave the child free.

This quite other than abandoning him, than allowing him to do what he likes. That is as far from the principle of this method as would be that of a mother who should say to her little one of two. "Go sustain yourself as best you can, go out of the house and find your food."

The fundamental conception, then, for the physical life is to give the best conditions for the body of the child to develop; it is the same for the inner life. It is the minutest study, a very precise action that must correspond to the principle of liberty so understood. To a principle of liberty thus understood must respond a method of education which tends to give all the conditions of the inner life.

Of course forget this and think that to give the conditions of life to the child means to give the conditions of physical life. That is well, give him a beautiful airy environment, dress him so that



his clothes are light and do not hinder his breathing, we should not thus have given the conditions of life to the child; and if we also said, we will leave him free to move, to go where he wishes, in all parts of the room, to go out of the room and come back, to move the furniture as he pleases, to throw himself on the ground and get up, in short, giving him full liberty of movement, we should only have given a kind of liberty to the animal in the child; whereas liberty consists in giving the conditions for the whole of life, and the conditions especially also of the inner life; beginning with psychic life must be appropriately determined.

And the whole of my method consists largely in this, inasmuch as in this are included all the principles of liberty. The liberty of the body is considered in that the child must have the best conditions for development, and the conditions of movement are considered so that the child can move shall be free in his movements. But this is not all; we must also give the conditions of his inner liberty. This is the most elect liberty, upon this must be based the method which proclaims the liberty of the child.

## *Lecture M*

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Lesson given April 3rd 1934

The biographic chart gives a basis for the scientific direction of pedagogy.. In fact, also for that pedagogy which goes to-day by the name of scientific pedagogy, and in general in all the serious attempts for educational reform, it is sought to introduce the biographic chart (however it has always remained a desideratum) as a guide in the study of the children. In fact, one of the positive statements of scientific pedagogy is this: "We need to understand the pupil in order to educate him: a collectivity of pupils must be understood by the one who educates them, individual by individual; and each individual must be understood, not superficially, but must be profoundly studied according to those guides determined by certain sciences which study man or else according to those somewhat vague principles which various promoters of pedagogic and anthropologic sciences have wish to determine more or less arbitrarily." There is not a study precisely indicated the same for all the schools, but there is the direction, the principle affirmed that it is necessary to study the individuals, one by one, with method, and with scientific method..

To begin I should like to illustrate, more than a biographic chart, the concept we must form for ourselves of the biographic chart and of its importance in child study. This concept is necessary in order to direct us, exactly a precise study really has not been established, and when there is not something precise and established each one can form his own ideas which possibly inexact..

Generally when it is declared that is necessary to study the child in the school in order to educate him, there comes at

once an idea which has been held also by some learned men of the past and is perhaps also held by certain learned men of to-day, which certainly is the idea most people have, namely, that once we have been able to understand the child under the guidance of science, then we shall be able to guide him, almost to his destiny.

The illusion which the teachers have as soon as they hear that it will be possible to study the child with the biographic chart, is this: "Ah! then we shall know what the child is going to be. This will be an interesting thing, - to follow the child in order to understand what he will be able to do in the future. We see that one child can perhaps become a mathematician, another can become a poet; this one will have the stuff of genius, that one, instead, of a martyr. Here is the important thing, - the teacher ought to know how he ought to guide him; to open the ways, to make easy the so difficult path of life; to advise the boy so he may take the right road, exactly that one to which destiny bears him; to say to him: "You will be a mathematician" or "You will be an author", without making any mistake; to prevent for the man that anxious seeking after his social by saying; "You are destined to this; you have a great future;" or "You will have to limit yourself to a modest life". That is the ideal.

However much I may set it forth too briefly and therefore in exaggerated tints, nevertheless the foundation for the approving attitude towards the biographic chart is this: "The reality must disillusion these aspirations" What I should like to establish clearly is the simplicity with which we must consider this study, a simplicity that might seem empty to us upon whom this study imposes such labours which afterwards do not give us the immediate satisfaction of being ourselves the arbiters of these lives we have to study.

This sort of commercial instinct, of wishing to realize great benefits from doing some little action, almost to sell this work for a high reward, the reward of becoming ourselves judges and, materially directors of that humanity which we have wished to study, this instinct we have to choke in order to enter really into the scientific path.



I have repeated, perhaps more times than necessary that "in order to take up the study of man from the biological point of view, one should be prepared by diverse biological studies" not for culture, but for the formation of the right character, of the right attitudes. There are some biological concepts, simple, clear, tangible, which could largely guide us even to understanding of the things which seem farthest from them. For example this purely biological knowledge which is among the most primitive and the most simple regarding the egg and, in general, the cellular generative elements from which come the beings, from which comes also man. It seems indeed to take the question ab ova, and yet, when the questions are new and complex we need to take them "from the egg"

Most evidently the germinative cells contain the being in his complexity : there is no doubt of this. If these germinative cells will have to produce a man, without doubt in these germinative cells there is potentially the whole man, not only in the external form, but even in his activities and in his highest activities. The fact that this man is intelligent that he has certain special activities, that he can become a social being etc.:- all this there undoubtedly is in the egg. In short all our greatest men, such as Dante Alighieri and all the greatest poets, the greatest heroes have come from an egg which had in it potentially this being, extraordinarily great, most elevated :- that is man. And so there are some cells which have in them potentially, on the other hand, beings inferior to man also the least beings of the lowest steps of the biological scale. But this is the important fact that these germinative cells are wholly similar to each other : larger or smaller as may be, they are, however, simple cells where we find a membrane, a protoplasm, and a nucleus ; as we can see it in an epithelial cell of the utmost simplicity. A membrane, protoplasm nucleus and nothing else, and likewise are all the germinative cells : there must come from one of these germinative cells an inferior vertebrate, or there must come man himself. However, except for certain little differences in dimension and in external form there is always this very simple datum, a simple cell ; where evidently no man, if sought, may be found, nor any other being.

Aside from the simplicity ; to think of the dimension -  
a tenth of a millimetre - of the egg from which the man must come, would be



enough to convince ourselves that if we have to make our biographic chart (( and really the biographic chart ought to begin the history of the individual from the egg )) we ought to wait to contemplate this cell which has in it nothing special, were, however, there is a man. This thought might come-<sup>m</sup> How I am going to make a comparison: if in this egg there is nothing, then I can make just what I will of this egg because there is nothing. I say a comparison because analogously the teacher say, "In the child's mind, there is nothing already established and I myself will put everything in it, I will form him myself, it is I who will mold this mould which has nothing in it ." So we could say : " Now I will make a man come out of this cell, in this cell there is a man- but the fact is that we cannot it evident. We shall see, though, what will come from the egg; but we shall see only little: that from this egg something will develop; itself, and we shall see what the egg will have developed, but we shall not be able to see anything more ."

If e.g. these two questions should be asked us :

"How about the child; is he an empty vase (this is just has been repeated so many times) were we can put whatever we will, or is he something already formed for which we can do nothing!" In order to reply to these two contrasting questions, we ought, as often happens, to retreat from both and go into another field. Because the field of truth in life is not that simple problem which we can make for ourselves with an interrogation point, according to our reasoning. In fact in this case we need to turn away from both the questions: "Is it a void which we ought to fill, or something already formed?" It seems empty ; but it is full of an unmaterialized potentiality, intangible and yet existent, as a law of nature that no one can destroy or alter. Still, what we know exists does not exist. Here is a man, but he is not here. We cannot see anything of what has not yet come in this thing which contains all and which is nothing. This is the principle which biology gives and which can illuminate a great vast field, of education, in the sense of giving us guidance when we wish to judge the individuals to be educated, and also to put us in our true position as educators.

We ought to reason analogously in regard to the child whom we wish to educate. We shall never be able to say ; " This child

will become such and such a thing", - given that every child may have within him his particular and personal destiny which differentiates him from other human beings. Then we have the different children as beings apparently equal, but perhaps with diverse destinies, and these diverse destinies are not accessible to us when they have not yet been manifested. Certainly it can very well be that that great individual who will exist, may exist already in a child, but in a potential form such that for us it is as if he were not, when we wish to become positive observers and assemble only the facts. Also experience of life tells us that this is so, in fact sometimes the individual himself grows and becomes adult without yet knowing what is his true destiny. We have in history some famous men who lived up to a certain age, without knowing at all what they would become; and so much less could the elementary teacher have known it, who had had that child of five years under her charge. But more, we have this - that the man who really manifests tremendous potentiality, is not recognized by the other people surrounding him even after having produced, after having already manifested himself. The others, are not aware of it, and very many great men who have benefitted humanity pass on ignored without people having comprehended during their lives what they had given.

And how can we imagine that a teacher could understand the aptitudes for becoming of a being who was not in himself in tangible fashion that which will develop, however much he may really have within himself all that which will develop? And also we cannot know what will develop because the activities of these so great beings who are men must manifest themselves exteriorly in an environment which is continually changing because man is creating new things in it. And if the environment is continually being transformed because men are continually creating new things which are often unbelievable to those around who have not attained the same heights as he who creates, - then how can we say: "This man will create" as e.g. very many people believe that every thing in the environment is already created? I remember e.g. that one of the great doctors I have known said to me: "The epoch of discovery is finished because now everything is discovered!"

A science made in such a way would be a science of

for telling, not a positive science. Positive science observes facts. Wherever it does not observe facts, where it cannot assemble them rationally by some quite possible research, be it even indirect, - there is no longer a science of observation. One is reminded of a science like this; the phrenology of Gall, which in the year 700 had believed the aptitudes of man, and therefore also of children, could be known from the bumps of the cranium; and used to say for example, that whoever has the back of the skull greatly projecting is given over to animality, and may become a murderer, whereas, whoever has a very high forehead can become a poet, and they used to describe all the aptitudes of people; thus, e.g. - "A child who busies himself often with mathematics will surely become a mathematician, on the other hand one who likes to amuse himself with simple machines will be able to become a constructor of something.

Now we know well that this science fell to the ground even before it had really sprung up; and that to study man a very different course must be taken, and very different are the standards which can lead to an opinion. For example, the concept which has come in later times from Lombroso, that there really may be some men who are inferior, and who have even physical signs of their inferiority, and that therefore these men can be called beings who stand below others because they are badly formed - this concept is already more correct than the other, in so much as it does not determine in this sense "He is formed badly in this fashion and therefore he will make such and such a thing"; that is, it does not determine in analytic fashion, describing aptitude by aptitude, but it declares a general principle and says - "There are some men who for diverse hereditary causes are formed badly and do not attain that normal development which is attained by normal men, generated well without hereditary diseases etc.; therefore these men cannot even act well like other men." We readily find in these badly generated beings not only some various inferior physical forms which could even be described or classified, but that these beings have also moral and intellectual anomalies, which can be described and specified -, leaving all these beings, so in a mass of malformed humanity, not however putting a malformation in relation with a special aptitude. This is already a truer standard, a broader judgement.



Now it is not these large criteria more or less mistaken, which must guide us, nor so much the less is it the illusion of being able ourselves to foretell the destiny of the beings who are entrusted to us. I have already repeated many times that in order to really enter into scientific paths, and in order to be sure of having penetrated them, there is need to re-clothe ourselves with the deepest possible humility; because for the scientific paths, one enters into paths of the truth of life; and experience has demonstrated to us that in order to enter into paths of vital truth, one needs to be re-clothed with humility, just as those who enter into paths of spiritual life are also aware that humility is necessary in order to penetrate there. We must be simple - note the facts and keep them. You will say "Therefore, ought we to be only instruments to take these facts and note them? But ought not some opinion to come from us?" He who will take facts and retain them, with simplicity, will find the truth which unfolds, so very evidently, that his opinion will be formed by these consequences.

And this ought to be very consoling for us, because it permits us at once to go far along this road. Truly the active accomplishing is of the utmost simplicity; we need only to collect the facts, and collect them with the greatest possible exactness, without hoping for a reward? We shall be ready to ~~repay the reward~~ if this come. That is what the scientist must do who sometimes finds himself confronted by the discovery by the height, which is his reward. He collects these facts, retains them, without expecting anything.

It is in order to facilitate greatly the assembling of data that the biographical charts are given; because they are guides which came to be given more as advice than otherwise, by people who occupied themselves more than others with these themes; guides which certainly are not wholly arbitrary, but which are brought forth by certain developments of these sciences. The biographic charts always have some printed forms, because these printed forms perform the functions of the scientific instruction, which the people who make these researches have not had. There are for example, great doctors who make the biographic histories of individuals without need of forms. But the forms serve, for example, in a school, to give guidance to those who are not prepared for such deep studies.

These forms generally consist of two diverse modes of compiling;



There are some forms which assemble the investigations (We have to make investigations in order to know the necessary points;) and there are some form on the other hand, the guide to the objective examination of the individual.

The investigations are questions which we have to consider. These questions are determined; they give a totality of cognitions which can be assembled, which become useful, and which in themselves already give an idea of the entity of the individual. The enquiries indicated in a biographical chart are of various orders; generally they concern the body, the ~~biographical~~ development of the individual, and the psychological development. That is to say, enquiries must be made as to how the individual has been able to grow, in health, and as to how, psychologically that individual has been able to manifest himself to others, ultimately to his mother, to his teachers, etc. These investigations have been used principally for the study of abnormal individuals, e.g. all those deficient or diseased. Therefore these histories had extraordinary importance from the biological point of view. To know the hereditary diseases of the relatives, also of the collaterals, - the particulars which can be an index of degeneration, as alcoholism, etc.; and then to know, as far as possible, how the individual was generated, - if he had an alcoholic father or an alcoholic mother, if the mother was healthy or not, if the mother was tuberculous, if there was hereditary syphilis or other things; to know how the child grew in the first years, - if he had nervous maladies, etc. All this is of the greatest importance, especially if it is a question of abnormal individuals, because then we have a mass of information, and find every species of diseases and defects.

But when it is a question of normal children, there we have, instead, great monotony; we always repeat the same things; "Parents healthy - - -, parents young, virtuous, without defects, - - -, the baby born rightly, very well developed, nursing perfect, dentition perfect, the ambulation normal - - -. He has been the joy of his parents who have followed him with wonder, etc." All have very nearly the same history, and this becomes monotonous. However, it is also a datum which is put outside. Now there is a great quantity of absolutely normal children in the common schools; so we need to make a great distinction between that kind of individuals who have a biographic chart interesting from the biological point of

view, and this other species of individual who are not of interest, and for whom we must write "Normal, normal, normal, ". Nothing noteworthy in the breeding, nothing noteworthy in the development, etc. One might say "Let us abolish this part, for normal children, in a biographic chart.

Certainly a biographic chart of a normal child must have something else, not only the biological investigation. In order to differentiate individual from individual, a very great importance is assumed by the environment into which the normal child was born (rather than the biological facts according to which he was born) and the environment in which he has grown. Therefore, when we are considering a normal child the economic, social, investigations is the most important one to be made. In making this investigation, one sees then immediately the great differences which there are among the children in a school where the individuals are pervailingly normal. While that biological investigation is monotonous, here one sees a difference which is really full of interest. There are some individuals who differ from one another because of the biological facts of genesis; there are on the other hand, so many individuals, all those born in normal conditions, who in their turn can be divided according to different social conditions, which are not conditions remaining simply in the economic and social life, but are also deflected so as to affect the body. In fact, we have the poor children who grow less than they should according to the normality, because they are under-nourished, because they breathe vitiated air in small houses, etc. so that the blood is less pure. The children who are in a similar social condition have also few aids to their intellectual life, so that they have fewer ideas, are not initiated to any of the ordinary things to which other children are initiated. The most of the content of our ideas we get outside of school. It is extraordinary to see how some children who have lived in a restricted environment have such lack of ideas as these children really have. For example, I happened once in my life to meet a young girl of twelve or thirteen years who absolutely did not know anything. She said; "What is that picture?" I said "It is Umberto." (At that time King Umberto was living.) "Umberto? Umberto who?" "Our King." "Ah! and what is the King?" This is not exaggerated, because this person had actually lived in a hermitage. But certainly the children who come from these environments have not only the

poverty of the blood, the poverty of the organism in general, but also an intellectual poverty, and often a moral poverty - because those who live in these conditions have been less enlightened, and also they have some special conditions which drag them into situations which are immoral; and also there is the possibility of profoundly immoral standards being formed by those in such conditions. Then this child grows in a special environment which differentiates him from the others grown in favourable environments (still speaking of normal children). These children who grow in favourable environments are found at the same time to have a better developed body, therefore stronger - and then the endurance of the intelligence is also greater, the endurance at work, of any kind; they are richer in ideas, complying also readily to those moral habits which they acquire without merit. Then that is a differentiation entirely founded on an external point of view, namely the environment.

These are the investigations for which I give some forms in my biographic chart, which I shall afterwards illustrate separately. Besides the investigations in the biographic chart, there are also forms for assembling the data which represent the study of the individual. These data are precisely those which permit us afterwards to make out what has come to pass in the individuals who find themselves in these diverse conditions, - what has happened to those children who at that period of growth in which they were so plastic, have had to grow in those environments. And then we find exactly the things that have happened (speaking of the differences between the children), namely, that, for example, the poor children have grown less in stature in general, less in weight, that they have an inferior intellectual activity, and inferior moral attitudes, etc. But one finds, for example, some rich children who have diverse characters which are not always the opposite to these. It is not said that the children have all the benefits and the others, on the other hand, all the disadvantages. Generally we find, for the poor children, certain advantages which do not exist for the rich children, and which are noteworthy. Some of the better understood advantages are these; - however much the children may breathe vitiated air, when they are poor; however, if they are really poor, and if they are left in the streets, these children have a more ample ~~room~~ than the rich children, because they are continually breathing fresh



air. The rich children are those who had the narrowest chest, less vigour in their aptitudes, some kinds of inferior individual character. In fact, they have had to stay short in so much, and so much the more the richer they are, in general, that they have a thorax really narrower than the others. There are signs of various slaveries in the children of the rich, which are not indications of material misery, but which are indications of a poverty of another kind which leaves its stigmas both in the body and in the character. Therefore we see that these normal individuals, generated well, for diverse causes are taking the wrong path in life, and are acquiring characters which are not characters of perfection. This gives us a very democratic and universal idea of the school, an idea of equality, namely that all the children have need of help; that we must not leave the privileged ones for those who are not, but take them all, and give to all as much as they need, if it is possible.

This, then, should be the scope of the study of children, - to differentiate the individuals and find their defects and also their perfect aptitudes, their physical beauties, and to make note of them. - These differences are certainly, most interesting; but there also interesting results of the researches which are made on these children when they have just come and during the school period. Studying these children when they are entering and when they are leaving, we find thus, that when they are leaving they have become impoverished, not only because of the environment in which they lived in the family; but they have become impoverished because of the school. Precisely all these defects which children have in consequence of staying at school, the impossibility for them of growing according to the natural laws; all these things become revealed by this study.

The study of anthropology tells us that in the history of the pupils lies the history of a badly implanted school. And so, when there is this regulation of the school fundamentally wrong, we cannot just stop at the thought that the biographic history may be that which is to reform all pedagogy, and to reform all society. The biographical history reveals things to us; it is a lens of precision, which makes our eyes focus upon the humanity surrounding us, - that is all. Certainly, the biographic chart does not remedy anything; the child, having been studied, remains



just such as he was before; all of his conditions certainly do not become modified. But the biographic chart makes us see the condition of the moment, the present state; and above all, it reveals to us evils; social evils, and evils of the school. And so the biographic chart is a guide for reform. Undoubtedly it is the biographic chart, the social study, deep, sure, exact, which reveals to us all the evils of present society, - because they are the children of all society who come into the school, of all the social classes; and the study would be the most scientific study, the most positive, that could be made in our day.

But more cannot be done. The biographic chart, therefore, does not carry us to the state of being able to judge; nor is it this which will make us reform the school. It does not lead us to be the immediate directors of the children; because it leaves us the children, such as they are. Only, it indicates to us a work, - but afterwards this work must be accomplished. The biographic history indicates to us the way to put ourselves in touch with the living beings around us, the precise way in which to put ourselves in contact, in order to be able to see their needs. This is all - it discloses to us these needs. What is it that we can do? This is a social question that is springing up, it is certainly not a question of individual work, but certainly there is this result, of putting us upon the road to remedy the evils. Without the biographic chart we should be blind to the remedy for the evils. This tells us what we must do, guiding us to the mode of offering the individuals the conditions for life.

If we could consider the biographic chart according to a standard which may be called antiquated, but which is certainly clear as we understand it better than science; then one might say that the biographic chart is the means which leads us to an act of charity; to unite ourselves, profoundly, intimately, with those who surround us, in order to understand them for the purpose of doing them good, this is what it does. And if the biographic chart should be in all the schools for all the children, there would be a generalized charity, one might say a social progress. It is an ancient principle, individual, which is coming to be a form of society advanced along scientific lines. And it leaves us in that simple position of the man of olden times, who when

he was going to perform charity, sought to approach his brother as intimately as possible, and benefit him. This is enough. If afterwards this brother should become either a genius or a hero, or an unfortunate one, - this is something far off, which we cannot foresee. It is the act of the moment through which we are passing that counts for us. We cannot do anything more. It is already a great deal for us to be seeing for the moment, because generally, we are wholly blind. A great deal to see for the moment, to say - "Now - - - in this moment, - - - by so great effort - - - yes - - I see. I have been able to touch the human being who was passing near me in this moment, I have been able to do some good for the moment." It is all that is given us. One might say "I have met these beings, not to judge as to their future; I have not wished to know them; I did not wish to know who was that one benefited in the moment when I met him. I did not wish to know if he were a hero, or some rich person, or some one born to a great destiny; or less; I did not wish to know anything of all that, - I wished only to see of what he had need, and to do him good." It is enough.

It is this criterion, which I cite, because, being understood, it serves to illustrate the principle, in a few words, - it is this that throws light upon the limitations, the ultimate purpose, the real physician of the biographic chart.

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## Lecture N

For private circulation among the members of the class only.  
This version of Dr. Montessori's lecture, being the translation by Mr. Claremont of the report taken viva voce by Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorised for the personal use of members of the class.

Lesson of April 6 1934

It is the science that must help us to find the conditions of life, especially the conditions of life for children, who in contrast to the young of other species, do not contain those potentialities that can lead them themselves to realise the conditions of life. Up to a short time ago the conditions of life of the child were entrusted to maternal love, to that love which protects almost all beings in nature in course of formation, and which is undoubtedly at its greatest elevation in the human species; to mother love, and in general to the love which is diffused as a sentiment of sympathy of the adult towards the child, but above all without doubt maternal.

Now experience shows us that love has not been enough to save the child and realise the condition of life for the child since the science which has sprung up in recent times, in the interest of little children, has thrown great and new light, and has actually succeeded in procuring sure guidance for the protection and salvation of infant life, in short it has helped us to realise the conditions of infant life.

The hygiene of childhood has sprung up on the last few years. What is the hygiene of children if not the protection of life that we can give with hygienic rules, laws which can to-day be adopted in theory at least, universally, and as widely as possible in practice. This later depends upon the level of civilization among the different peoples. The laws of hygiene have given us what are the laws which render the body of the child free to achieve its development. Whereas the statistics tell us before these laws of life were revealed by science there was very high infant mortality. The sum of the mortality which comes from typhoid, from pneumonia together with tuberculosis which is a great scourge does not equal that of the mortality which arises entirely from a few



illnesses that attack the first year of the child's life.. This enormous infant mortality, this kind of scourge, this massacre of the innocents was the normal some time ago.. The day what has hygiene done? It has brought diminution in infant mortality: that is it has saved life.. Not only this, but it has given so many rules by which this redeemed life could then develop regularly and then be followed so that all the inner potentialities could reach that finally contained in the germ.. There has resulted not only a greater number of living children but also rules able to give a greater beauty a greater physical strength and in the children a greater joy, a life undoubtedly renewed..

The laws, the means which hygiene has counselled are the simplest.. In fact it is often surprising to notice the great simplicity of the means that science offers to evoke a wide salvation. It has given rules for the nourishment of the child.

One of the fundamental rules that saves the child is the manner of feeding it.. and this which is so simple, a thing which it would seem unnecessary to say, science has stated thus: mothers must feed their own children.. Then it has said another extremely simple thing; children must be fed at mealtimes, just as adults, not eat continually, but from time to time so as to digest one meal before having the next.. And then after this which is all that hygiene can give the child in its first year of age, in that year of age in which occurred this high mortality, after this it has revealed that the child is not merely a little man but is a man in course of formation that is to say profoundly different from the adult, not only different in form but in the intimate constitution of his tissues, so that he must be treated not in reduced proportion but differently.. Whereas, before the child was merely considered as smaller.. Hence if the father eat a whole portion the child proportionately ate a smaller quantity, and if the father drank much the child proportionally drank less, and doctors also had more or less the same the same idea, for the old-time doctors, when they treated children judged by these standards if the dose for adults is so much, for the child it must be a reduced dose: so that there was a proportion in quantity but no consideration of quality:



while this question of quality is the fundamental one in the hygiene of the child, and it is a science that has revealed it ..

Not only has it revealed it but it has studied and determined the precise measured means to be able to answer neither more nor less to what are the physiological needs of the child in the various ages according to its constitution.

It would that in so many centuries through man has passed, these little things would have become realised by maternal love; perhaps not those regarding quality, which are too deep. But the others; that of establishing that the child must be fed at mealtimes, it is strange that that idea should not have come sooner. This makes us reflect upon a psychological state of humanity, which is a though dormant as though it contained something latent unable to awaken, such that it cannot grasp the smallest truth able to save it..

What did mothers do with their love when they fed their children? Whenever the children cried they gave them milk. The child makes the movement of sucking by a natural instinct: it is one of the providential most marvellous instincts; for the movement of such difficulty is made perfectly by a newly-born baby without anyone having taught it. However it is performed in a perfectly reflex way and it is well known that bringing any object whatever near to the lips of the child at once makes the movement of sucking. That is, it occurs in the same way as when one sticks the knee and the foot jerks; bringing an object near to the child, the child sucks.

Let us put ourselves in the places of those children who were entrusted to what is nevertheless a great thing maternal love. Let us imagine ourselves for a moment to be in those conditions; we are weak and have no adequate means of expressing ourselves, not even the means of coordinated movements to call attention to us; but we have only one means that of crying so that having any need whatever we begin to cry .. At once it is quite automatic - someone hurries and sends a luncheon into our stomachs.. If for example we need a bath, or there is a fold in our dress which hurts, we cry, and at every cry there comes a luncheon, then our digestive system suffers, we have stomach-ache and another descends.. children reach the point of vomiting. This simple piece of reasoning;

that one can cry for many different reasons especially in an age there is no other means of making ones wants known; that one ought to eat at meal-times and that the two things are separate from one another, at this so simple piece of reasoning, with the ~~passage~~ of the centuries, even with the experience of high mortality, humanity had not arrived.. Science has had to make this reasoning, which is so simple; children cry for many different reasons, let us try to respond to these different reasons; nevertheless it is certain that they need to eat at meal-times.. It will seem fabulous in the future when the history of mankind is studied, to learn that science said no more than this..

The science of the child's feeding has not been the only progress in the health of the child. The child cries for many reasons, science has tried to respond to them; it has replied by satisfying the physiological wants of the child, his need to breathe fresh air, his need to be free in his movements, his need of baths, and in this certain conditions of external life have been transformed.. The child is no longer wrapped round and squeezed in swaddling clothes he is no longer enclosed and restricted with something too limited as in the ancient cradles, covered all over with gauze; he is allowed to breathe fresh air, to move. In this sense an exterior fact of liberty is truly attained, because a bond is released, the obstacles are removed, that prevented the air from reaching the child.

Truly we say to-day: the children must be free.. This word comes to us naturally because this correspondence is always felt between the conditions of life obtained and the liberty acquired.. But when we have attained these conditions, we have not considered the child as more than a plant; since the child resembles a plant in this; he also needs nourishment, must breathe air etc. We have however taken a step more. When the children have finished the first year of life, begin to feed rationally, beyond maternal food, and are dressed rationally in such a way that they can move freely, then they are taken to open places, in the open air, e.g. the parks, and are allowed to run and jump. Then we say, the children need to run, need to jump. And when children fed and dressed thus are taken into the public gardens and left free to run and jump, we believe that we have done all that is possible for the life of the little child. We see that they are

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healthy, thriving, apparently happy, are as we see it, free, and we contemplate them as if we had reached the maximum level of progress in all this immense quietude. Children who are free in this way are then - let us repeat - something more than plants, they are animals and we say the child is like an animal and must be able to do what the animals do. In fact the child is, at this stage like an animal: all that we have done is the same as what nature does for the little beings of the superior vertebrates. What more could the mother of a little kitten claim than that it was well fed and could and hump? And the birds. Still more than run and jump they can fly; the young of the birds is without doubt superior to the child. All the animals resemble the child in this state. The mother who deluded herself to have given liberty to her child having supplied all these means would evidently be mistaken. She would be the mother of the free child - animal, but there must be a higher liberty which must come, be it also from the same trend of science after this.

The same line of study with the same direction must be brought to cultivate that part of life that is peculiarly the characteristic of the life of man. The child is not merely a plant nor an animal, but is a social being; a man, a social that cannot be free in society except he have the rights of other men.

It is necessary that the being in course of formation should have the fullest liberty to form the man, the inner life of man, this intelligence all the inner activities that characterize man. The little child must become adult not only in body but above all in his inner life. As the child is reduced in dimensions of form and of constitution on the physical side, so he is in the interior life, and in order that he should become like the adult also in this inner part a great development must occur. For this great work of development we must find the condition of life, just as in the case of the physical life. It would belong but is not difficult to show how the child, instead, is not considered from the point of view as a social being, nor is yet respected to-day in his effort of formation of the whole man but on the contrary we find ourselves from this point of view in an epoch one might say of barbarity where there is something similar to what we deprecate in times gone by when there was the



great mortality among children.

I repeat that this would be easy.. However few observations are sufficient to convince us that the child is a being outside society, because in fact he is entrusted to the love of those who have charge of him : he is not a social individual equal in all things to others which is the first foundation of social liberty.. We have an example of this in the moral sentiments of the public towards certain rights of children.. When for example the mother of a child who is born is ill and unable to feed it herself, if this is a rich child it is thought to give it the milk of another mother who is poor and so to take from the child of this poor mother the milk which should have served for the poor child.. Even in the places where the custom of mercenary feeding has been put down this principle remains of being able to help the unfortunate child who lacks the means of nourishment..

But is not this a grave wrong to the rights of life of the poor woman? Undoubtedly . But "it will be said," is the rich child to become ill or die?"

That is all very well, but if for example a rich man becomes ill; he cannot go out into the street and seize a poor man who passes by force, in order to have the transmission of his blood. This is contrary to every right of man. The rich man will die since he cannot take the blood from the poor. If on the other hand a person is poor as regards financial means and says: i shall suffer and perhaps die, so I must go and take the property of that other who is rich, otherwise I shall die. This is necessary , it is necessary that I shall have that property , or else I shall die." "If a person reasons thus, this reasoning is not accepted by society which says: This man is poor, that has property, but this property cannot be taken because it is protected by sacred right.

Now no property is more sacred than that of the child-evidently- because on this depends its whole life.

If therefore society remains impassive as to whether the milk of the poor child is taken to feed the child of the rich woman, who does not care for the trouble perhaps: if the whole civilized world is silent and does not rebel against what is a barbarity, as they would rebel instead against brigandage, if it does not say: this is something



which humanity absolutely cannot endure; if this is allowed to pass which ought to take the form of a crime like every form of offence to the rights of others, this means that the moral with respect to the child and that socially there is not the elevation of conscience which there is for adults. So that we tolerate the crimes which affect the child, crimes which we do not tolerate for the adult. There are forms of justice for the adult, which do not exist for children, hence the child is outside the ordinary social community he is on a lower plane. There are other things of much less significance than this quite superficial; in fact a great social question has its formidable signs ranging from the damage to life to the tolerated crime, and also has aspects which are simple and superficial.

It is in fact a whole entity of unjust oppression of the inner life that shows us that our life has to pass through an inferior age a lower social status full of dangers, full death for us; death for the body and death for the spirit.

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...ally he not a guest of ours,, because we have nothing in the environment.. Perhaps recently we have begun to do this , but absolutely up to yesterday the child- human being did not exist for society,- and for this reason because it was beleived that he was onl y an animal,, but when the child could move, could run, could jump; that would be enough. That all the movements that man must make as a man to attacon the characterstic motility ~~of~~ the human being ,, the intellegent motility tthe movements of the hand, the possibility of transforming an environment for a purpose which is given by the intellegence this movement that must be established in the chil child and must develop in him , this has no recognition on our part, or had none up till yesterday.

This movement is now begining -but up till yesterday there was no furniture for children , such as rooms with doors made so that the children could open them themself es,, th' children lacked the possibity of doing anything praactical in life and no one concerned themselves with what they might be able to do by themselves since it was our desire to do everything for the children..

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I said that, there are very simple, very superficial things e.g. this that the child is not considered by us as a guest of society. With all the love that we have for him with our desire to know him yet we are not aware that really he is not a guest of ours, because we have nothing in the environment. Perhaps recently we have begun to do this, but absolutely up to yesterday the child-human being did not exist for society, - and for this reason because it was believed that he was only an animal, but when the child could move, could run, could jump; that would be enough. That all the movements that man must make as a man to attain the characteristic motility of the human being, the intelligent motility (the movements of the hand, the possibility of transforming an environment for a purpose which is given by the intelligence this movement that must be established in the child and must develop in him, this has no recognition on our part, or had none up till yesterday.

This movement is now beginning - but up till yesterday there was no furniture for children, such as rooms with doors made so that the children could open them themselves, the children lacked the possibility of doing anything practical in life and no one concerned themselves with what they might be able to do by themselves since it was our desire to do everything for the children.



Here also if we put ourselves in the childrens position and imagine the torments of this suffocated life, and imagine ourselves( having the same proportions as little children) to be amongst people made quite differently from us, active, with a small head, with a narrow trunk, able to move much more quickly than our own, in a way that we are not able to imitate, let us imagine ourselves to go amongst this population which is different from us , a people of giants. Supposing we wished to sit down the chair is about as high as a table , and we have to climb on to it , with great efforts: or else we have to open a door and the handle is so high that even standing on tiptoe is not enough and the task has to be accomplished with an effort that is quite or nearly impossible. We have to go upstairs and the stairs are about as high as the chair, we wish to brush our nails and we have to use a brush the size of a clothes brush. This life of torment could never enable us to live tranquilly. We should say: These giants have not thought about us have not wished to be hosts to us, they have prepared.. nothing. We can therefore do nothing in this world except run and jump, but that is not enough for us, for our anxiety is to form the adult man. We need to develop according to our intelligence, and not ~~according to the needs of our muscles.~~ We are not animals but men and yet we lack all the comfort of life, we also lack the satisfaction of the most intimate needs of our inner life.

If we looked at what love does for the children ,for undoubtedly children are the most loved of beings and society has certainly done much for children for a long time, we find e.g. toys. Toys are the whole of this large world reduced in miniature but they cannot be used for anything by the children except to be seen by them. The little chairs, the little table for the doll cannot be used by the children. These objects cannot be used by them to sit upon, or to cook with, but only to see something imitated in miniature which almost as a torment cannot be used for anything .

The children ought to amuse themselves with these objects according to the good intentions of the adult. In reality all know that the children break these things. They say: "Because children are intelligent and want to see how they are made." But is the intelligence of the child

only, but with the whole of the means necessary to the child, we see that when he begins the work of the man, of the human child, of the human part of the child, then there is no longer merely an animal that germinates, but that there is really a spirit, a man who grows.

This so simple idea of helping the child leaving him to be the same as the adult but of smaller dimensions goes together with another prejudice, which consists in this; that to help the child to become a man one must show him what a man is like, and say to him; because like that; this is a principle of education. Man begins to study himself a little, he sees what are the most difficult things to follow. The most difficult for the adult to follow is the character; hence the adult wishes the child to develop character as soon as possible, and says to the child; I have character; you have it too like me!

The adult man thinks, the child does not do what I do, but certainly to do what I do, he must make an effort. It is necessary that man should have a strong character, and so the adult says to the child; make an effort and do as I do.

I once saw a father who was taking a child for a walk, and the child was crying for tiredness, the father said to him; when you are with me it is not like with your mother. ~~You must walk like me, because I want above all that you should become a man of character!~~

Similarly, when stories are told to children, recounting to them for example, the exploits of a hero, and we say to them; "It is for you to imitate him!"

For the child to reach this state of the grown-up, the adult thinks; it is necessary that the child should be submissive to do what I want. He must learn to obey me. The first thing that the child must have is this obedience, if not, how will he do what I do when he grows up? and the adult says to him; "Do as I do, you must?"

The problem is solved!

This principle is so universal that it forms part, I should almost say of our mentality, and it is difficult of us to rid ourselves of it so suddenly. We need a certain exercise, first to enable us to enter an entirely different order of ideas. For example, this; that the child cannot become a man except at that determined time, as for example, he cannot become equal in height to his father until he has reached the right age for this development, and it is useless for the father to say

to the child: "Do me the favour, by this evening to become 10 cms. taller because I wish it?"

In the same way it is useless for him to demand of his son to become like him in his inner life. There are laws of formation for this inner life, similar and parallel to the laws of physical formation, that the child has to respect, since this is his manner of growing, and it is useless to command him in this respect.

When we do not give the child the possibility of developing, on the contrary take it from him, there occurs a struggle between the child and the adult. The child rebels and the adult tries to make him submit, and the more he sees him rebel, the more he tries to make the child reach this finality, seeking to render him docile, subduing him with all the means at his disposal, because he thinks that the solution of the problem lies there; in dominating the child until he makes him do what he wishes.

And from this, perhaps, comes the greater part of what we call the naughtiness of children, which is the real defense of their life against this immense unjust tyranny of the adult, and in this sense the children are yet more in the state in which men found themselves many centuries ago in that age of slavery in which they toiled under the tyrants. The tyrants sometimes demanded sacrifices beyond the powers of men, of living for example, in conditions contrary to the necessities of life, and required efforts that were absurd, so much so, that they ended in revolutions, and in the perishing of the possibility of social progress. What did the tyrants do? They gave the people many pleasures, there were carnivals etc., and then there were the punishments, as for the child whom we try to amuse and subjugate with punishments.

Those oppressed by the tyrants always had to admit that the tyrants were right. Thus the children, even when treated with evident cruelty, have to say the same. Then of those oppressed by the tyrants those were evidently more considered who shared a certain admiration for the tyrants themselves. To-day the children are more caressed when they show this admiration for the adult who tyrannises over them, and this may be said especially of the school where as we have seen, the tyranny can really be compared to that of the ancient times, in which there was torture, the boot



in which the bones were bent in order to make men submit without discussion. What happens to-day in the school? the children have to curve their spinal column, become blind and anaemic to obey a tyrant who aims solely at this, obtain the absolute submission of the child, and that only! as the single principle of education, the absolute point of departure in education.

We have never thought of the laws which the child must follow during his work, we never concern ourselves with this, that the child to develop has need of a given work, and that he must perform it also under definite laws in accordance with which only is it possible to develop regularly from the point of view of the inner life. We have never considered this.

Now we see instead, that when children are left free in a rational work which serves to develop them, they follow rhythms that undoubtedly correspond to laws of nature.

One of the surprising facts that we find in little children, is their constancy to work, and also the extreme slowness with which they make all their movements. To give an example, let us leave the children when they have found this means of work that we can offer, to remain at it for all the constancy that is their need, and follow it with all the slowness that is characteristic of them. That means, to leave the children free to develop according to their aptitudes. To prevent this is a violence to life, and to prevent its development. What instead, do we generally do to these little ones? Two things which are, to interrupt them in their work as often as possible, also with the good intention of not tiring them, and seeing that they work very slowly substitute ourselves for them, do ourselves the work which they ought to do; since it seems to us that the goal to be reached by that work is an external one, and when we can do it better than the child, we do it instead. The child would certainly take a long time to wash and brush his hair; so we wash and brush him. The child would take too long to lay the table and eat his soup, and we lay the table, put it in his mouth so as to do it more quickly. The child would take a long time to dress himself and so we dress him.

But while the child washes, combs his hair, dresses himself, eats his soup, he does not only wash, brush his hair etc., but when he



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performs these acts of external life, he also develops inner activities that are the attitude of doing these things for himself, which he acquires with great joy, since it constitutes a manifestation of the spontaneous activity in him.

To give scant food to children and to prevent them doing all these things peacefully and comfortably, are two things that almost equally impoverish the life of the child. He lives not only by the bread he eats, as the old proverb says; "Man does not live by bread alone, but also lives by everything else," by his intelligent activity.

In fact, let us think what would happen to us if we found ourselves among a race of giants, who moved by laws different from our own, for example with a giddy quickness absolutely unattainable, illimitable; giants twice as high as us, who moved quickly like those quick change artists that one sees in the theatre. We should like to eat our soup quietly. Certainly we have need of nourishment. But of one of these persons should come and put all in place in a jiffy, and then want us to swallow it at a bewildering rate, we should say; "For goodness sake, gently, my way of eating is this, I do not know how to do what you want."

If we are dressing ourselves while thinking of something, and someone comes and takes us without warning and dresses us in an instant, we should feel infinitely unhappy, so much wounded in our dignity, rendered evidently so inferior by this being that we cannot imitate, and we should feel slaves by the very fact that we cannot do anything without all these people coming to do it for us, that really the nourishment that we can take, the air we can breathe, however perfect, could never lead us to complete health, for health is made up of other things, it does not consist only in this power to eat, this power to breathe, but it is made of the development of our activities, of the activity of men in all its extension.

So that we should feel slaves to these persons, not assisted by them, and if these persons should say to us; "How little you are, you cannot do what we can, and have heed of us to do it for you, we should feel offended, and it would make us dejected." In this life of strain; we should become something different from ourselves, incapable of acting?

The child not only does within himself this interior exercise; that is the usual exercise of life, that maintains life and leads to its

development; just as food taken regularly every day leads the body to its development, but there is also something else which forms within him. Something that he does not yet possess, and that little by little takes shape. We see spiritual crises in our children at certain moments, they feel this creation within them, and in fact they create, they create themselves, their inner persons, and they have a feeling of it which is something more than a feeling of wellbeing, but which is a sublime sensation. These are spiritual moments, most worthy of respect, and to be able to respect them, it is evidently necessary that we should be aware of their existence, or else that we are possessed by such a complete and absolute respect for the whole life of the child, that these moments can enter together with the rest, in that atmosphere of respect with which we surround him. But if such an attitude towards the child does not exist, then we run the risk of interrupting the child precisely in the moments which are guides to his inner life, perhaps bringing disasters in this inner life, for a purpose that more often than not is unnecessary. Just as the good mothers of former times, who so loved their children, nevertheless killed them, meaning only to comfort them when they cried, so it is also easy for us to kill something that is just being born in the child, although loving them greatly. It is precisely the interruption of the man who is striving, interruption provoked by love, which extends to the child without understanding him; when for example, he is intent upon some occupation and feels something awaken within him, in that instant this thing that is born within the child has to develop, and if we do not permit it, we cannot know when the instant will again present itself that we have interrupted.

It is certainly that we all feel that much was suffocated in us during our life. It might be said that the story of all of us registers more than a physical violence to the limits that our body could reach, a depression of our inner life. A depression caused by someone who depressed us although loving us, perhaps without knowing it, since they loved us, but without that light of understanding that must be united with love, just as intelligence in man is united to the great feeling of the heart.

Let us imagine ourselves in these circumstances; there comes to us, for example, a poetical inspiration. For example, I am just in



the act of writing a poem that perhaps will bring help to many people who will read it, will be an inspiration of something great. I am writing this poem, or else another person is solving a serious problem. Someone else comes and interrupts the moment which passes. I do not know if this moment will ever re-occur. We know of many great men who had this possibility in their sleep, or half walking; a light which passes and will not return. Someone I repeat, is resolving a problem, that will be able to bring great benefit to society, and another person feels within himself the unexpected flash of an inspiration of art, and wanting to fix this inspiration upon paper, flashes down a sketch of the design. These persons are working according to their special genius, and in this moment another person comes, for example, a giant who speaks the same language and says: "Come along all of you," and makes us go by force, one has to follow him. "What is it?" "A Sweet." We should say to this giant, "You could not have done anything more atrocious than this." It is here that I feel my slavery, here that I lose more than when I could not eat, when I was not able to move. Here I really feel the wrong that is done me, for it was that inspiration which would have made me sublime, and I have lost it for a caprice, for a piece of foolishness, that could not have interested me, and perhaps the moment of inspiration I shall not have for a long time, and the world has lost a poem; a problem solved, a masterpiece!"

For the child, these masterpieces are the exuberances of his inner life, which he feels palpitate within him. They are not external things, but are his life itself, that which he puts together in a fury of little masterpieces which are born within him like the bud of the spirit of mankind. It is the entire man that has to come from him, he does not lose therefore only a poem, a problem, an inspiration, but loses a part of his existence itself, which he will not be able to take up again, and which will leave him therefore a smaller man.

This is the principle thing to notice, the fundamental point of the liberty of man. We must really consider the human creature in his attitudes which characterise him, and when we speak of the liberty of the child, and of the conditions of life which bring him liberty, we must above all speak of this; of the inner life, that has need above all, of being free and developing according to its law, for who does not know that



this is the maximum satisfaction of man, that there is nothing exterior that can nourish him so substantially as this? And all the other things come second in importance, and even if the individual is fed less, it is better than if he had not had the inspiration.

He is more happy and satisfied since it is this inner life that also renders more possible all the assimilation that the body makes of matter, for this is the life of man, this is its principle part, which however strictly it may be united to the rest of life, so that for a man to live in complete well-being he must live completely on all his sides, is nevertheless his characteristic. And since to attain this, there must be a progress in all the other things, to aim at this is to aim at further advance to have this as goal, to attain this, is to attain all the rest.

Seek this as the first thing, and everything else will come by itself!

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## Lecture 0

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Lesson of April 20th 1914.

Wishing to put a school into practice wherein the principle of liberty should be realized one must aim at a school which gives all the conditions of life of the child. As regards the physical life, hygiene has already established many rules, and many privileged schools undoubtedly contain many of these conditions. Undoubtedly such a school must also include all the conditions of environment already known that permit the development of the physical life of the child. Thus with this method there is a form of ideal school.

It would be too long and complicated to describe it fully, but an ideal school would be provided, e. g. with much space, gardens, etc. They are all things already known. At the beginning of our schools however we had a special quality, which cannot certainly become general: but which must be mentioned as an excellent condition of life where it can be obtained. I refer to the condition, that the school be in the house where the child's parents live. Evidently this is a condition of life, a very important condition of life, and although one that has nothing to do with the description of the environment of the school itself.

Upon this subject which also constitutes a social question of great importance, and an aspect of the school during the child's first years, we might speak separately as it is certainly a subject of great importance in itself; but for the present let us remain in the sphere of general principles, and establish the principle of a school founded upon bases that realize these conditions of which we have spoken.

This school has outward conditions which are, I repeat, well known: thus a complete school should be well ventilated, sunny, with gardens, large rooms, and have a large working room, though not excessively so.

To give a rough idea, one might say that this should be double the size necessary to contain the chairs and tables alone arranged so that the children can work with a certain comfort; that is to say these tables and chairs should be placed a certain apart and the room should then be about double the size occupied by them. This is a general principle that might be useful in practice although a precise formula cannot be given, since we certainly ought not to measure the child's air in a niggardly way. What might constitute a special characteristic of this school from this point of view is the fact that we ought not to give the children a single room, but if possible several rooms, a suite of rooms.

The fact that the children ought to have not only a room for working, but several rooms includes the recognition of many-sidedness in the life of the child. Thus e.g., there ought to be a dining-room, a room where the children can sleep, a room which might be called a parlour in which are pictures, illustrated papers to turn over, a room for coats and hats, a toilet room. Naturally the size of the apartment like the sizes of the rooms depend upon the house available, and the economic means at one's disposition. We can speak only of the minimum necessary in these schools that is, the spacious working room which I have mentioned.

With regard to this room one cannot say how it ought to be arranged, since everyone must do what they can: we can only say how it ought to be, considered ideally, e.g., how I have conceived it if it were ideal. This ideal of mine is certainly not a dogma, but I would imagine this large room for the children very beautiful, much decorated not only adorned with plants, but with pictures.

Consider e.g. that which has been the temple for men, the church where gather and concentrate their ideas; developing their spiritual life. Churches are places that for many centuries have all been much adorned; hence it is not true that the adornment of walls hinders concentration, for those places that have been places of concentration for men have had the most artistic ornaments that humanity has ever known at a time in which there was a spiritual as the outward form of life of all men. It is not true that schools must have bare walls since otherwise the children cannot concentrate, for we have had centuries of



experience of the exact opposite..

The bare walls of the old time schools were evidently the walls of slavery where the children did not have to concentrate but where contration was forbidden and where the children were forced to follow an individual who imposed himself upon them without fight-speaking spiritually. For sometimes also in the churches the crowd follows a man who speaks among all the decorations, of art, but he speaks with right, with spiritual right.

I believe therefore, that in a school where there is a basis of liberty of life, there could or there should be all the most beautiful ornaments,, without the children being prevented by them from concentrating.

If one day the life of the child should become the inspiration of the artist as religion was, the art of the school might be born and perhaps one day this will arise : that inspiration which lies in suspense in our days, which in fact all forms of spiritual life are languishing! (in abeyance)

I do not say however that this beauty is a necessity for the putting into practice of this idea. We are always treating of external things: the single necessity is that of following the spiritual life of the child and that can be done in any environment; hence I said that it would be an ideal conception, practicable, but not absolutely necessary.

The furnishijg of the school may be also characteristic although absolutely new: for many schools I believe, also do the same. That is not to use desks but unatached chairs and tables; in short, to furnish a school more or less like a home. As regards the quality of the furniture I consider two qualities as essential; one is that it should be light so as to be easily moved from place to place and the other is that it can be washed merely with soap and water. These are the two essential qualities: all the rest may vary; nay, ought to vary. I have no idea that there ought to be a special type of tables and chairs, on the contrary I should wish that there be several kinds of chairs and tables in the same room just as this variety is now beginning to be used. Practice nevertheless brings a certain uniformity, e.g. rectangular tables providing two or three places. But other



tables ought to be always added, squares, round etc.. And similarly the chairs should be of different kinds..

Then there must be cupboards.. Till now we have used two principle kinds of cupboards which served to contain the didactic material, and from which the children can go and take this material, and another piece of furniture in which there are drawers of which every child has his own; and this therefore becomes used for individual property.. These cupboards ought not merely to be rigidly devised to contain something, but ought also to have a purpose of adornment. they ought to be pretty, artistically designed, able to be decorated with other objects such as flowers little mats vases, even fragile objects; fragile objects upon fragile furniture..

As you know, I also use many moveable mats which the children fold and spread out and can be taken to one place or another. Children at this age are very fond of working lying upon the ground and it is for this purpose that the use of such carpets is advisable.. There may also be brackets on which to stand objects which may well be placed in this room; little benches or stools; and then there are also other rooms meant for other purposes, and in which there must naturally be suitable furniture, cupboards for the dining-room etc.. All this furniture must have as characteristic the fact that is low, adapted to the child, so that the child can easily reach it with his hands.. It seems a very superficial thing; but nevertheless it has happened in many schools in which this idea has been adopted, that the fact has been overlooked that the objects must be within the child's reach.. Thus e.g.. small clothes-pegs have been made, suitable for children; but these have been fixed so high that the children could not reach them.. It is clear that their purpose is thus defeated, since in those schools the children are supposed to do everything themselves.. If the premises could be designed the stairs should also be made so that they are adapted to children, the doors with the handles low, easily turned, so that the children can easily open and shut them by themselves; in short a whole home should be made which is adapted to the children's proportions..

As regards the conditions of life, these ought to be all realised if e.g., meals are taken, if the school has a long timetable then ought to

ne hygienic refection for the children and it is the hygiene of to-day that tells us how we ought to treat children in this respect. It is only necessary to follow the road that science has indicated on other lines and with other intentions; that is to say, the way of physical hygiene, which has shown the way in which we should feed children up to six or seven years of age. I gave some idea of this in my book. Undoubtedly it always progresses and this becomes of great importance- of nourishing the child rationally. Also the possibility of children sleeping for some hours of the day, and more so if the school day is long, is very hygienic and much to be recommended, as it is carried out in some model schools for children. That the children should be for as long as possible in the open air also for their work, is a well known and practised idea. That one can adapt the dress of the child so that it shall also be hygienic is also well known, and for this reason ought to be included in our educationally concepts which are based upon a biological principle of making life secure.

Certainly all that science has done and indicated to ensure the life of the child, must be included in this, that is all a project for helping on the fullest possible way the life of the child, that is to say in all the immensity of human life: and not only to help the body as has been done up till to-day by the science of hygiene but also the mind.

Now nothing is more comprehensible, more usual, more accepted, more deeply realized than this: that the children must have spacious surroundings, and be able to move. This is a principle already digested something therefore superseded.

When something has been thoroughly grasped so that everyone says " this is already established," it means that this is already a thing which is done with digested. It is time for another meal, for fresh nourishment, for further progress, - something else that (simply) represents an unconscious appetite, but which is , the road of progress.

The child must move, but ought he to move? All agree that he ought to move, like a little animal, to hop like a bird, or to run like a dog, or crawl like a reptile, but always like a beast. This is the principle digested: we have ceded to the child the liberty

of the animal.. Really the animals do not make the movements; It is ~~app~~ apparently this movement, but in reality the bird which hops etc., all: these animals have a reason for doing this; they do it in order to attain the purposes which nature has given them, whereas we wish our children to do what they do without their reasons..

But if we wish to give the child the same liberty that we should give to a bird, to a lizard, a dog or a mouse, we should have to give it according to the purposes that nature has set the child. For if our aim is not that, it is less than what we have given to an animal; giving the child liberty to move in this way.. Hygiene ought to help life; and I repeat, I repeat it indefinitely life cannot be aided, except as a whole not in detail not analytically.. It has been the custom in schools to do gymnastics E.G. with the fingers, with the hands, since it was said these gymnastics strengthen those muscles.. But these analytical gymnastics contrary to nature be the hygienic gymnastics of the free child.. But even if we rid ourselves of this slavery of partial anatomical gymnastics imagining that in reality the muscle of the hand does not improve when the mind of the person to whom the hand belongs has no activity; imagining, that is, this partial gymnastic to be out of date, and believing instead that the children must be entirely free to move as they wish we have not solved anything more than a problem which is not a problem which is not a problem of man.. For a child free to move; without purpose, without any definite ends to be gained, does not make the educational movement of humanity, and we cannot say that a child is free to move to move when he moves without aim, for man is not free when he moves without purpose.. This not the solution of the problem of his life..

From medicine we have had much illumination; pathology has thrown light upon physiology; also pedagogy has reaped from the abnormal the deficient epileptics deaf-mutes and blind; all the assistance given to the weak man, are aids that reveal what we have to do to strengthen and bring life back to its normal level.. But all that which is useful as a remedy can also be used to assist life.. I do not wish to give a pure and simple explanation of things and proclaim what I say as a truth; but I repeat, experience has largely shown us this, that all those means, that have enabled us to help the weak and fallen to rise again, are also

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means that enable normal humanity to grow. The same road of life has always to be trodden- theory states it, and experience has proved it.

All these hygienic ideas of allowing the child to move freely before entering the school, have been carried a long way in the asylums for the mad. Whose nerves were withered neurasthenics and also idiots at one time, as you know were kept actually in chains, in the most complete slavery; now we have the period of hygiene in which it is said: we must break these chains and allow lunatics liberty. They also are men and need to live, neither can they ever get better in slavery; more they can be helped. Hence these men have to be allowed a certain freedom to perform physical exercises, because if the body is healthy the mind must also be better. The hygiene which reconstitutes the body can also lead man to reconstruct his whole personality. In short these hygienic principles have been adopted for those suffering from nervous maladies, and we have begun to give gymnastics to lunatics. But this has not brought about the results that were hoped for, and this period of allowing idiots to do gymnastics, allowing them to move with a certain liberty, to walk etc, has been superseded by medical science. To-day the mad are cured with much greater success having them work. To move with a purpose, arranging that when they move they do not move for the sake of moving, but in order to do something, to attain a simple end, an end provided naturally: to move with this fundamental principle of accomplishing a purpose. This is the last word of hygiene as regards the cure of the nervous of the weak. This cure need not entail the production of some work by the idiots, it is not, e.g. like that produced by prisoners. Work is also prescribed for prisoners but these being abnormal intelligent men- otherwise they would be put in the lunatic asylums and would not remain in prisons- their work is utilized since their intelligence, their possibility of moving according to the integrity of their nervous systems can be directed to produce: so that industries are formed by the work of prisoners. But it is not so for the idiots, theirs is another kind of work. The idiot does not have to produce anything, but do something tangibly useful to himself; this is his purpose. His work has a purpose but does not furnish a product; to sweep floors, dust furniture, tables, arrange plants, set the room in order, fold up clothes, washing, do as



as much as possible by himself, all that is necessary for his own life; and this is called the re-education of the idiot; to lead him to do, for himself all that is necessary for his person. This is the work which is given to the nervous to reconstruct them. It is a reconstructive exercise that he does, little by little putting his mind into harmony with the organs of movement, which permits the mind to become ordered in that simple way, and in these primitive occupations. And these exercises, done little by little, and developed according to a special prescription of Doctors etc., really helps the mind to put itself into agreement with the whole of the muscular system of the co-ordinated movements; besides which it is now beyond doubt, that this is the only repose that a man can have who does not sleep. Everything else is undoubtedly a greater effort. The only rest which the man who cannot sleep can have is that of doing something, even though it be of the simplest - of doing something. The experiments are very well-known regarding it.

The strength has been measured of a man condemned to dig a trench, and then put back the earth that he had dug out, and repeat this delicate muscular work time after time - to dig out a trench and replace the earth - movements very precise, measured. These men were extremely tired by such work.

But if instead, they were made to do identical work, but without filling up the trench, for instance, for the purpose of planting trees, the men were not tired. It is work which has a purpose which helps the human personality to perfect itself; and in this beatitude, let us call it, work which has a purpose is a repose.

Now we can bring a parallel concept into the school for children. They certainly are not like lunatics since they have not lost the mentality capable of lofty thought and have not lost the capacity to co-ordinate different movements for operations having great purposes; but they have not developed all this. It is not that they have lost them, but they have not yet developed them. All these potentialities that lead to the highest activities of man, that man can lose by accident or illness the little child has not yet developed.

It is certain that applying similar principles to children, we can make gigantic strides, since we rationally help a development which would come by itself, and we can conduct the man who has to develop.

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almost directly towards perfection, when we can rationally help him right from the age in which this development has not yet come.

We can decide then, upon this principle in our schools; that when we say that the children must be free to move this liberty must be a human liberty; the children must be men free to move, hence this movement must have an intelligent scope.

Undoubtedly, however, these children whose minds are not yet developed, and must still take everything rationally from the environment whose movements are not yet co-ordinated, cannot be persons who can be utilised to produce external work. And we cannot say to the children "Let us set up a workshop, for example, for manual work, since that is the product of a developed personality, and here instead, we are treating of a personality that has yet to develop. If we should wish to make use of them, this would be useless, because they would not be able to do work, as I believe experience has sufficiently demonstrated, which would be utilised. Hence it must be work with a purpose, but not productive work.

Now with regard to this, I cannot think I can do other than enunciate a principle that appears true to me, namely that a little child cannot produce; and certainly the labour of such a production, would not be a work but an effort. It is enough to think of the enormous effort that the eye of the child would have ~~that~~ when the powers of accommodation of the eye are not yet developed, and that to produce something absolutely useless, we run the risk of distorting from the beginning the life of those organs which are the most useful of all in the development of the inner life. Thus, also, we cannot think giving exercises of strength to little children to develop the strength of their muscles which must necessarily develop with their age. The characteristic of the little child instead, is that of not having strength. And we await the coming of this strength quietly, knowing that it will come, and we know that the muscles of the child are not yet developed in the way in which they must necessarily be developed to have strength. We certainly cannot give those muscles that special anatomical and chemical construction that is the construction of a strong muscle; it will come by itself, we have nothing to do but await it, and there is no need to do exercises



requiring strength; but we can instead help in a spontaneous nervous and muscular work that realises little by little, the co-ordination of the movements, always in a more complex way; that is, making the child move with a definite purpose. If we give the child the means for doing this exercise, we see how the stimulus to the movement of the muscles is the strongest there is during the early years, and the more help we give the child to co-ordinate his movements, the more we see that he continues his co-ordinated exercises. Hence ours is a help to the natural development of life.

Thus we have to give the child the end to be attained--here is the way of helping him to move - and then leave him free to choose what co-ordinated movements he likes.

But for this we must have the means. As for gymnastics - we need a gymnasium - that is, for the gymnastics that have no purpose, that are only a means - a gymnasium with special contrivances; so here, we have to give special objects to the children which they can use to co-ordinate their movements. Thus a place is necessary in which the children can move freely, objects are necessary that permit the children to move intelligently, with a purpose, since we are to consider them as the children of humanity.

When we are so fond of a bird as to put it in a cage in order to have it near us, we think to give it something which will enable it to move - in substance it could also move on a level, but we put perches in its cage so that it can hop from one to another. In this we have done something affectionate - one could not imagine a more selfish love, but it is thus; ~~our~~ desire is to help the bird.

Now if we wish to free a being, we must give it the means of moving. If we put children in a large room where there are chairs and tables and said to them; "You ~~are~~ free to move," we should be playing them a trick, because we should not have given them the means, or very limited ones; for example, we should see them carry the tables and chairs about, all intelligent ways of moving, but too limited. We must multiply these means, in order for the children to move. These exercises would be all those that I call exercises of practical life, in order not to create new terms, since they are exercises which all men perform. Why seek extravagant exercises when there are so many that present them--



selves every day in practical life, and which represent the practical life which the children see every day at home? Why invent new exercises when the children do not succeed in doing all that is to be done, merely taking what occurs every day in life? The exercises of practical life may be placed in the school as an institution of first necessity.

All this is a subject that must be treated from a wide hygienic standpoint, and a broad conception of life. We say: the child MUST move, not that he can, but he MUST. To move is a question of life. It is a necessity of life for the development of the child. The question is not one as to whether the child can or cannot move, ought or ought not to move; it is NECESSARY for the life of the child that he should move, but at the same time it is necessary that his movements should have a definite purpose. It is evident that these movements might be multiplied to infinity. One might invent them. But it has seemed sufficient to me, from the experience that I have had of children, all the series of movements that constitute the first steps of practical life, for example, to cultivate a plant, water it, feed the animals, exercises in short, of practical life. Understood in this sense, it is not a moral principle, that for example, the child should be able to dress himself and wash himself, but it is - I would say - a material principle - understood in this sense; which serves to help the personality to develop, like any other gymnastic exercise. Is it not in fact the instinct of the child which all mothers, especially, naturally, poor mothers have met with, to do what they see adults doing, the things of practical life? On account of which one of the greatest distractions of poor mothers of who have two or three children of about this age, is that of having persons about them who disturb. They want to take the plates and glasses carry them, wash them, etc., and the mother continually has to say: "Keep still! Let it alone!". They are distracted, do not know where to send these children who want to do everything!

One of the liberations of the working class mothers in districts of Milan, was that of understanding this idea. It was like a lightening flash to make them understand that these were the children's exercises, that they should trust them to the children, that they learnt these movements at school, and that they ought to let them do it. The mothers saw as by an enchantment, that the children were a great help; for children do

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not have to play but act for a purpose, be useful. This consciousness of having been useful, of having accomplished something that represents a contribution of our personality, this is what gives repose, and repose is a food for the moral forces of man, while it sustains those of his body. To treat man rationally we ought not to begin from the bottom, but from the top; it is from the spiritual life that we must depart to find the equilibrium and repose of all the other lower parts of life. To feel that we have been useful, to have done something; this is what sustains the physical forces far more than anatomical exercise.

It is evidently necessary to teach all these things to the children. You must realise that the liberty understood in this method does not consist, for example, in leaving the children in contact with material, with objects, expecting the miracle then to take place of a kind of chemical reaction by which the children become capable and intelligent. It is evidently necessary to teach. We know very well for ourselves that we are not diviners; how we have striven even to have something simple; we have seen that the art of divining is anti-scientific; hence this should be a principle of education, that the child cannot guess anything, and we must teach all. We must not however, torment him with long discourses. If, for example, to teach him hot and cold, we speak for an hour, the poor child will not learn it, it will be enough instead to say to him, purely and simply, "This is HOT, and this is COLD." In this way, we can teach him everything without tiring him, without making him our slave, when we are not bound by a programme to teach him - to-day this, to-morrow that, to-day to wash the floor, the chairs and tables, to-morrow to comb his hair. -

If then, it should happen that in the moment in which we believe ourselves to be useful and give a lesson of this kind, we do not succeed in our object, then we must retire. There is no need of a marvellous intuition to understand the necessity that if we do not succeed we must retire. If, for example, I wish to teach the child to polish his shoes, and do not succeed in making him understand, it means that he will polish them another time. Our "amour propre" need not be offended by so little. To old-time teachers, at least in Italy, this seems incomprehensible.

I once said to a teacher: "You give a lesson to a child, teach him to wash his hands." There were a number of students, and all were

interested to see what their colleague would do. She explained many things that she had brought, and said for example, "This is the soap, (the soap was wrapped up in a piece of paper), smell the scent, what do you think it is? Is it a piece of cheese? No, it is soap." And then again, "I have brought this jug, why do you think I have brought it? To pour out the water?" All admired the ability of this teacher. But I said; "I do not like this lesson, now let me do it." All those present then became very attentive. I put the water in the basin, and began to wash my hands, and said to the child; "Do as I do." I shewed him how to wash each finger, and when his hands were well lathered, to throw away the water, put fresh and rinse them.

But seeing how short my lesson was, they all said; "But this is a joke, what lesson is this?" But as a fact, the child had learned to wash his hands; and this was the end to be attained.

When we have taught all these movements with this method, we can then proceed to perfect them, and can also insist upon the refinement of all their particulars. But to do this, the teacher must convince herself of this, that she must not weigh upon the child by teaching him too many things. At certain times the child is not ready to do a certain thing at his age, and however much insistence we display we cannot succeed in making him understand what we want to teach. We speak to someone deaf, to a being who does not understand us, and it is useless to go on wasting time. The teacher does not understand this perfectly till the second year in which she teaches; in the first year she is too imbued with theory while only in the second does she begin to understand something of the practice. Intuition cannot be taught theoretically. It would be necessary to prepare teachers to have it, and as this is not possible, teachers learn by practising by themselves with the children. I am reminded of the anecdote of Tolstoi, who read a passage from a book to some boys. They all said that they understood, but had only really understood a few words; and no one had understood the essential things.

I once saw at the theatre for little ones, here at Rome a production to which all the children keenly attended. Suddenly there was a mistaken word used. But the children understood that only and repeated it delightedly. There are therefore illusions which it behoves us to take



note of.

Now when a teacher has been put on her guard by these illusions, and has been in contact with children so as not to have these illusions, and to know when the child has understood and when not, she will then understand that it is not possible to make a child do something when he is not ready. We can be illuded when speaking to children into believing that we are understood. But when it is a case of having a child do something, then it is necessary for him to understand excellently, and if we have recourse to an activity of the child, we are certain as to whether or not we have been understood. During my experience in the Children's Houses we taught the children various things. Some of these I can no longer shew you because we have not had the accomodation for some years in the Children's Houses to which I devote myself; but we had great success in the operations of watering and tending plants, feeding animals, etc., while you have all seen the analogous work of sweeping the mats, cleaning shoes, brushing clothes, washing faces hands and feet, having an entire bath, learning to dry oneself; laying the table, clearing it, washing the plates etc., things which it was not customary to do as a necessity either in the schools or in the houses; and more often in the schools, at leastly commonly, it was thought to have the child imitate these practices; e.g. there were given a doll's table to clean, a doll to dress, a doll's bed to make; things about which the children do not become enthusiastic, and which do not lead them to great persostence in work? This however, can be obtained with the object of doing something useful. For example, they really wash the tables and really clean the carpets, and so on.

To-day there are no longer children such as I once saw here, owing to the fact that these children no longer work in their original peace and solitude, since there are so many people always to surround them, to visit and to study them! They are therefore formed in a different way from that which they were at first; but if you come to have similar schools to that which I have described, you will see results superior to those which perhaps you imagine to-day, as I myself saw; when the children can really, by themselves, peacefully, without anyone disturbing them, but really concentrated in themselves .. when the children can thus do these things, they do them with great passion, perfecting themselves little by little. They then reach those altitudes that are really stirring; and



and they surprise us, it means to say that we are not accustomed to seeing the children this fact, that they are helped in their life, from the moment there are phenomena which represent things so new as to strike us profoundly.

You will see that when one has taught one child, when one child has had this first lesson, there is no need to repeat this lesson to all the others. It is not true that it is a great fatigue to teach every child a movement. There have been classes of fifty children, and sometimes as many as fifty-six, in which all the children have succeeded exceedingly well doing everything; for they have a great desire to learn these things and it is enough to give a single lesson to have an audience around one. In fact, this often happens, that we give a lesson to a child that is quite unready for it. The child does not respond in any way, but from here and there come other children who form a group about us. The child to whom the lesson was given goes away and we give the lesson to others. One child who sees another do something, does it himself; hence the simpler are the lessons, the less necessary it is to repeat them to all. And since the children are free to come and listen when they like, there is no need for us to make a great effort to recognise which child is ready to learn, since ~~those who do not understand will~~ be understood by the others. Sometimes even precisely on account of the simplicity with which these lessons are conceived and given, we give lessons without knowing it - when we do some action, for example, replace some objects in order in their box without any intention of giving a lesson. The children run to see these objects put into place and so the teacher gives a lesson without knowing it. The teacher who should send the children away while they are watching her put these things in the cupboard, saying to them, "Do not worry me!" would not realise that that was precisely her aim, which she has perhaps many times sought in vain to attain. We are accustomed to consider ourselves as teachers only when we think: "Now I will teach." We can instead, be teachers also in the acts of our ordinary life. All the actions of the teacher instruct the child, often in the most perfect way; and this is why we must try to be perfect before him.

What therefore, is the meaning of leaving children free? It means to let each one do the work he wishes; each one chooses his own.

One washes the ground, another brushes, another cleans the tables, etc.  
There comes a time when all wish to do these things, and then it is necessary to divide them in turns; and this is where the children are educated to observe an order in the division of work.

It is a mechanism which evolves like a mechanism of practical life.

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11 Dr. M. W. G.

11 Dr. M. W.

Section P

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This version of Dr Montessori's lecture, being the translation by Mr Claremont of the report taken down viva voce, Dr Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorized for the personal use of the members of the class.

Lesson of May 4th 1914

In the education of little children fundamental importance is assumed by the education of the movements and of the senses because little children find themselves in that period of life in which they definitely coordinate and fix their movements, and in which little by little they must make the sensorial conquest of their outer environment. Wishing to broach some considerations of a psychological order, it would be necessary to premise a certain culture with regard to physiology and psychology. If I were preparing teachers in a school which was complete and adapted for this purpose, special courses in physiology and psychology would be necessary. I know that many of you already have this culture. At any rate such a short course cannot do other than recall certain fundamental principles of modern knowledge. The modern psychologists have summarized all the psycho-motor and psycho-sensorial activity of the human individual in a figure which they call the diastaltic arc. This is very simple. this diastaltic arc represents the brain the central nervous system in general (including the spinal cord) and the nerves that put the central nervous system into communication with the periphery, the latter being the extreme opposite to the brain in the diastaltic arc.

It is not e.g; a mechanical external periphery, like the skin. This periphery could also be e.g. an internal organ. Hence we have nerves which put the centre into communication with the periphery and the centre with the periphery. On one side of this diastaltic arc is the sense organ, at the other end is the organ of motion. The whole of the nervous mechanism might therefore be summarized thus: nervous action begins with a sensation, which is transmitted along nerves

which going from the periphery to the centre are called centripetal nerves, then this sensation is elaborated in the nervous centre. Then the central system explodes in a movement along other nerves which put the centre into communication with the periphery, which are therefore called centrifugal nerves and produce at this periphery (which would be the muscle) a movement. . . . A simple and classical description which all physiologists agree as a simple explanation of this mechanism is the example of a little child who for the first time sees the flame of a candle. He is attracted by the light of this and is led to grasp this bright thing which attracts his attention. He burns his finger and draws back his hand. When the child scores he has an unpleasant sensation. This sensation causes him to withdraw his hand.

This would be the diastaltic arc of a reflex movement, reflex because the movement made is purely nervous. The movement of withdrawal follows the pain. In the same example, there is however another fact? The child sees the candle? receives the impression, extends his hand to take it. This is another similar act.

Here are two quite similar phenomena that have to do with the diastaltic arc; the sensation, the central elaboration; the movement which corresponds to the sensation.

Once the child has burnt himself, he does not touch the candle flame again. After this experience, there exists something else in the child that was not there before; a very complex work has taken place. The child recognises the candle which gave that pleasing sensation to the sight, and so unpleasant a one to the touch on account of which one must not touch it. And however much the impulse continues to take this bright object the will inhibits this movement, because memory together with the reflection upon the fact of the immediate pain.

Therefore there exists this second period of central elaboration which this time is undoubtedly cerebral and which ends on the voluntary act that includes an inner work which is psychological, and intellectual work.

The child remembers, distinguishes one thing from another, reflects upon the consequences of an action, inhibits the act?

Hence in such a simple scheme, which can be so simply explained -- the word scheme says with how much simplicity -- one can summarise the whole

nervous life, which consists at bottom in a simple diastaltis are and ends with an act of will. Between the two things there is an intellectual formation.

But this scheme certainly doesnot correspond to the truth in detail. The nervous mechanism is not so simple as the scheme suggests. For example when we speak of motion, the externalization of all the inner psychic work, this motion is not represented in a simple and limited organ, nor in a definite and limited act. Motion is the whole of life. In fact any manifestation we have is always in its externalization a motor manifestation. If we dissect the body we see that a great part of the body is composed of muscles, of voluntary muscles. The whole animal life is motion, so much so that it is motion which distinguishes animals from vegetables. There is also motion of the involuntary muscles. For example the intestines move the heart moves, the iris, which is a muscle of the eye moves.

But keeping to the voluntary muscles, we have that all the acts of life, especially of human life, are voluntary actions. The characteristic of human life is the possibility of directing with the will delicate movements.

Every expression is motor , not only when we walk, work etc, but also in writing, the expression of the intelligence in writing is made by means of movement; when we speak, spoken language is a movement, when we are moved by feeling, our face shows an expression which is produced by movements of the muscles. Human movements are characteristic. One might say that man compared with other animals who also have voluntary movement much developed is not characterized by the strength of his muscles, but by agility, by the possibility of moving his muscles with refinement.

There are specially certain organs which are characterized by having bundles of muscles which are very fine, which can be moved coordinating the organs group by group to do definite operations e.g. all the operations of the hand the movement of the organ of speech.

We have therefore the possibility of being agile, of being able to move infinite groups of muscles, so as to be able to give the body the most various attitudes. These are all special characteristics of the motility of man. The special chapters of physiology and anatomy would be very long that would be necessary at least to have rapidly studied to

be able to correspond with conviction to this simple statement that I am obliged to make.

When we speak of periphery (motor) we mean all the organs that move. They may be the eye muscles that move the ball of the eye, the muscles of the organ of speech, the muscles of the inferior limbs, of the hand that works and writes.

Muscles occupy a maximum part of our body; the sense organs instead are characterised by being very small, very limited, e. g. the eyes, the ear, where are contained the acoustic nerve ends, are it is true, extremely complicated, but they occupy an extremely small part of the body.

Hence there is not evidently a correspondence in dimension to be materially compared with this diastaltic arc. The visual and auditory sense organs are limited to small parts of the body, and are exclusively sensitive to that sensation. There are, however, sensations which have no special organs for themselves, but are only represented by scattered nerve ends. These are sometimes scattered only in certain organs, but they are always scattered in limited organs, which also have other functions, for ex. the gustatory papillae, and olfactory papillae. Smell and taste do not have special organs like sight and hearing, but are only represented by papillae, by nervous terminations, that are found in certain organs. The tongue is not only an organ for taste, but is also a motor organ that serves for the articulation of words, has a part to play in mastication, etc., as the nose is not merely an organ of smell, since it is also an organ of respiration. There are then, nervous terminations distributed all over the skin that can be called nervous organs, but which are not limited to a particular region, but have a generalisation of diffusion and are therefore called also organs of general sensibility.

The gustatory and olfactory papillae are considered as a specialisation of these papillae of general sensibility that are spread over the whole body; hence they are clearly distinguishable from the physiological point of view, and according to anatomical standards, from those other sense organs which are special organs of the senses, such as the eye, the middle ear, etc.

Under the name of general sensibility, various forms of sensibility are considered, that is, the skin is the organ of various sensations.

One of the principle sensations is the tactile sensation, which

serves to distinguish differences in surfaces. But there is also the thermic sense, which has a cutaneous localisation. The thermic sense serves to distinguish the various temperatures of a body, a different thing from the sensation received from the qualities of a surface. For this reason, when we wish to have the children do exercises in tactile sensibility, materials are chosen over which the child can lightly pass his hand with the soft tips of his fingers which are the most sensitive parts. The bodies which the child must touch have no thermic characteristic, the bodies ought not to be cold or hot, but should be more or less at the temperature of the child's body so that he shall not receive other sensation other than the tactile ones.

Another cutaneous sensation is that of the baric sense, that is to feel the weight of a body from its pressure. When a body presses heavily upon the skin, then tactile sensation is no longer possible, but we have a sensation of pressure, which permits us to distinguish bodies of different weights.

For this reason when we wish to give the child exercises of the baric sense, we select bodies which are of identical surface and which do not give the child any sensation of temperature.

Vulgarly speaking, all these cutaneous sensations are included under the name of tactile sensations, and five senses are recognised, namely, sight, hearing, taste, smell, and touch. But these are not the only sensations that we have. It is known that the internal organs have a special possibility of giving us sensations which vary according to the organ, for ex. the sensations of hunger and thirst. Also the heart sometimes gives a sensation in beating. But the sensation which has chief importance from the educational point of view, and upon which there is much discussion to-day among psychologists and physiologists, is muscular sensibility.

The muscles in the immense complexity of their fibres have nervous terminations which are not only considered as terminations of the nerve which goes to innervate the striped muscle in order to put it in motion but are also considered as sensory nervous terminations, because the muscle when contracting gives the individual a sensation. We not only perceive the fact of the movement of the muscle, but we also have such an exact impression that with eyes closed we can repeat with exactness movements

that we have learned to reproduce.

So that the muscular movements give a sensation which is called muscular sensibility. That this muscular sensibility exists in spite, I repeat, of the many differing opinions, is proved by the educability of children.

In fact, we have used muscular sensibility a great deal in the education of infancy, when the sensation of the movement which is made is united with tactile sensibility.

For ex. if we take a body and touch it (tactile sensibility), receiving (muscular sensibility) an impression of the form of the object, from this kind of light touching, we have from this union of sensation a complex sensation that the psychologists separate from the others and call the stereognostic sensation. The stereognostic sense would be no other then, than a re-union in perception of the object of the two senses tactile and muscular.

Now what is interesting to note, is that all this total - the diastaltic arc also gives this idea however simply - all this is a single unique thing, so that we cannot separate in any way that corresponds to the reality of things, the sensations from the inner work, and movements; but we must imagine a complex mechanism that is the mechanism of the physiological life, in which sensations and movements exist in correspondence between one another, with the direction and collaboration of the central organs. Sometimes the sensation and the movement are strictly united in a marvellous and mysterious way. It is by this union that the complex phenomena occur of the psycho-physiological mechanism. For ex. the development of spoken language. Language which represents a series of movements so complex, that when it is wished to establish them artificially, as in the deaf and dumb, an immense amount of patience is required, because naturally developed by hearing people speak. Hence between hearing and spoken language there is evidently this correspondence.

There is a correspondence between hearing rhythmical music and rhythmical movements of the body. These rhythmical movements could be taught separately, with great effort, but are produced by themselves, a sensorial auditory fact, that particular musical cadence that produces movement in correspondence to it. And here there would be a direct correspondence between the hearing and the movement.

On the other hand with regard to visual sensations, the movements that can be made in consequence, require a great intellectual collaboration. They come by imitation, by the study which the individual makes in trying to imitate another individual etc. Wishing to analyse, one would find a thousand arguments to explain the fact, whereas the true direct correspondence between sensation and movement, the direct correspondence which permits the movement to perfect itself, is the muscular sensibility, because moving repeatedly in that determined way, one ends by being able to make the movement as though there were a motor memory that is established, after which the will is better able to make the muscular system to contract co-ordinately. Now fortunately, while all this system in its actual detail is so little accessible to us, so that there are entire sciences for every detail of this great mechanism, the child evolves all this mechanism by himself, owing to a natural fact, which is nature's heritage to him. What we may consider is this fact, that the child has the instinct to organise his voluntary life, and there is a period of life in which man must obey this instinct to form himself. As in the intra-uterine life, the egg obeys a biological fact by which a complete man is formed, anatomically organised, so the child, from his birth up, especially after a certain period of time, comes to organise this inner man within him, naturally, owing to facts which have their laws, as all formations have their laws, e. g. the anatomical formation of the body. Now when the child organises his inner life, the nervous life must evidently exercise in a special elementary way, part by part, while functioning as a whole.

In fact the child has to co-ordinate movements which as yet he has not done. Little by little he must exercise his senses, getting knowledge of the environment which he does not yet know. This is a thing which is profoundly different from the adult man, who has to apply all that, profoundly different from this other fact, by which that individual has only to work to possess those attitudes which he does not yet possess, that he possesses only potentially by heredity, but which he has not yet actually established as a fact in his organism.

So the elements of this psychological life must have a very great importance from the point of view of the education of the little child. All these functions of the body, and one might say, this road which the indiv-

individual must travel to develop is a road of pleasure to man. Certainly when there exists a fact of development useful to life, this fact in general, is united with a sense of pleasure. All people agree that the child is happy in movement; that he ought to move etc. That the complex movement of the striped muscles is a pleasure for the individual is also explained by the physiological facts, because the muscular movements are not only movements that end in themselves that help for the physiological life. In fact the striped muscles in contracting greatly help the circulation of the blood. It is they, that pressing on the blood vessels facilitate the circulation of the blood, which would be so complex given only by the impulses of the heart.

The muscles then, in working, consume a great quantity of oxygen, and this causes respiratory action, one might say, they are the vivification the maintenance of the whole physiological life. Now life helped as a whole, from the material point of view, gives pleasure, besides which all the motor facts represent the discharge of that arc of force, and this discharge of a force accumulated at the centre, comes to represent a relief.

All these facts can explain up to a certain point, how movement is a source of pleasure. Perhaps man is not yet educated to enjoy these pleasures. In fact the pleasure of moving is not generally considered other than in a very superficial way. It is not a pleasure which we consider as among the great pleasure of life, there are people even, who do not move as they ought. Then we have the experience that some forms of movement are sources of pain to men. All these facts ought to shew us that the motor life contains profound errors in our time up to the point that this should be the source of a great pleasure by which life is refreshed, and that might be compared to the bath of one who is tired; this vivification of the whole life by means of the whole muscles, which contracting, help the blood to flow, and the oxygen to penetrate, this great pleasure which is sometimes a psychic enjoyment, to correspond to sensations, and that ought to be understood as something elevation in existence, is often misunderstood by us, and we pass over it almost without being aware of it.

Certainly there is irrationality of movement in the life of all, and the profound of work which is one of the great forms of the movement of man from the first infancy in school to the work done by adult man in society. All this work represents a source of great suffering, exactly because it is not based upon that law which ought to be the guide of the development of the life of man. To help the development of rational

movement, it is necessary from the age of infancy to correspond to the needs of the individual, with a knowledge not only anatomical and physiological, but also of the laws of the development in itself. In fact, in the physiological development, as in the morphological, the development of the forms of activity, in the one case as in the other, follow special periods, and therefore the muscular exercises ought to correspond to the dispositions of that period of life. For example, the little child in his muscular movements must make successive conquests, some of which are fundamental, and must proceed to other conquests; for ex. the fact of a person being able to keep his balance, of being able to walk, all these facts are certainly fundamental, and must necessarily precede every other kind of movement that can only be made when this has been established. Hence the first muscular exercises that children ought to do, are those which represent these as fundamental, should help the children to walk, to sit down and to go upstairs. Thus there are movements of which are the basis of all that complex of movements that follow in manual work. The movement of grasping is the first in that order, that one may compare to that of walking. If the child has not first done sufficient exercises in grasping, and has not organised all these movements, he cannot do more organised and complex work. If therefore, we consider the necessity of preparing the man for special movements of grace or manual work, we must first have thought of the preparation of this period, that is, we must have the child perform a series of movements that are fundamental. It will be necessary to have the child develop spoken language before passing to written. If for ex. we wished, without guiding the child's movements, to teach rhythmic movements, complex movements of the whole body, manual work or also writing, without a necessary preparation, all this would constitute an effort contrary to nature, and would not give the pleasure that can result from these movements if done according to natural laws. In fact, we shall see that the children are very happy when they exercise in these primordial ways which could not have any attraction at a later age. Also all the rest, the establishment of all the other functions, could be a source of pleasure. In short, man ought to develop in happiness, in the fullness of life. Also the fact of working with the intelligence, reasoning, comparing, deciding to exercise ones will, of becoming master of oneself, all this ought to be the source of great enjoyment, always a fount of joy that this is done according to natural law. If instead, it represents an effort, and does not follow the law of

nature, there is then pain, an unpleasant sensation, the suffering that we nearly all feel, and which nearly all children have in their development of the psychic life. And it is this fact of pain, which in addition to the ease of analysing the irrationality of certain proceedings; but this fact alone, that the development of life costs pain - that which is a fact of the development of existence -, is the revelation of a profound error which must exist in our guidance of man's development. To help the establishment of these higher functions, giving the full enjoyment of life, it is necessary also here to follow the natural laws, because here the formation is not indifferent to the special periods of development; it is undoubted that at this primitive age the child tends to gather all the sensations that he has to know. This is evidently an instinct for him since he comes by himself to know the environment more or less perfectly. What can we do in this period? We can help him to take from the environment. The child would collect sensations from the environment by chance. In what does our help consist? In having him collect them with order, in offering him an order in which he can take them. We cannot be arbiters as to whether he takes them or not, and it is not that without us he would not take them. He would take them heedily, and we can intervene so that this taking shall be ordered? Sensory education consists fundamentally in this as far as the work of the educator is concerned.

Now there has been much discussion about this as to whether or no the education of the senses is possible.

Many say; the senses are not educated, but it is a work of the intelligence which is done when it is thought that the senses are being educated. But all these discourses are vain, it is impossible to educate the senses without the intelligence and movement without the intelligence. It is quite understood to be a work of the intelligence. And these are no other than the peripheral parts that put the individual into communication with the outside world, and permit him to externalise what he can do by means of the centre. In fact all speak of psycho-sensory functions, and psychomotor functions. When an individual does a sensory exercise he exercises the movement and the intelligence in all its entirety up to the act of will. He must compare, reason, choose, decide. Hence, when we speak of sensory education we must understand one another from a pedagogical point of view, rather than the physiological. And to help the individual who has to make

the conquest of his environment by means of the senses is to give him the external environment ordered.

Thus, while the child would gather by sight many cognitions of form, colour and dimensions of objects, we can help him to co-ordinate all these sensations so that he no longer takes them chaotically, but has so to speak, pigeon holes within his mind in which he is able to put all these sensations. This is a part which we can do from without; determine objects that give the child an order in whatever he has taken and continually takes from his external environment. In this way we undoubtedly come to help the child, since to be able to order things from within from is the fundamental basis of the construction of the mind.

In what, for ex. does a scientist, a biologist, differ from an ordinary person? Not in the fact that the biologist sees differently with the material eye, but from the fact that he is able to order the things that he sees relative to the biological life in a way that the other is unable to do. It is that order, the ability to distinguish one thing from another, being able to classify these determined things, it is this that distinguishes the mind of the scientist, by which he sees all things with great ease, and is able to perceive better than others and to retain more perfectly than others, so that actually he has a power of seeing greater things as though he had more refined senses. In reality he has a more cultivated mind. What is it in this mind that is fundamental? What is it that permits this great culture which continually grows? An order which is formed among the things he sees. On the other hand, he who does not have this possibility of altering the things he takes from his outer environment, in this chaos all is confused, he has not the possibility of retaining and of observing like the other; hence that person is uncultured while the other is cultured. But the sense organs are materially the same. When we give the possibility of ordering the sensations without limiting the possibility of taking them from the external environment, we come to multiply the psychological powers of the child. This is the education of the senses that we can give. The order we must give with objects which are limited, not the sensations which are infinite, and are taken from the environment. It is order that we must give with education, otherwise we should be creators of new individuals. We are instead, educators, that is to say, we direct that which the individual does by himself.

Besides giving a help in this sense to the life of the individual we also come to do a scientific work with the education of the senses so understood, a work which has a scientific importance, because we come to give a kind of uniformity to the individuals in their mental formation. They develop according to a guide? Not chaotically, just as e.g. all scientists have a special type. Thus the individual can have a mind formed upon a certain guide, by which he multiplies his possibility of inner activity, and has a special type, the type of the meditative ordered individual who can distinguish one thing from another.

i. To render minds uniform in their construction is a thing of fundamental importance. Perhaps we are prejudiced against this. We might say: but how would you make all men alike? Is it not good for individual men to be all different from one another, more is it not the thing that matters to us, to recognise the differences between individual and individual? You instead want to make all men the same, that they should have those special qualities all equal.

But we cannot know individual differences according to their nature if we have not given a common type of formation. For otherwise the individuals will differ one from the other not owing to nature, but because they have been more or less disordered in the construction of their minds. How is it possible to distinguish the natural differences between one individual and another if all that which does not depend upon nature is not ordered for the individual?

If in short we have not this basis of comparison of the external environment, how can we judge the differences of nature? It has been experimental psychology that has had the merit of calling attention to these matters of fact. While the old psychology was concerned more with the study of the most complex activities of the intelligence, experimental psychology has set itself to study of the formative elements of the mind, which formative elements being in correspondence with the outer world can be studied from a positive point of view. It is thus that owing to modern science, the study of the sensations has assumed so great an importance. For in this case what is the study of the sensibility? The study of the sensibility given by experimental psychology represents the test of different individuals by means of the same stimulus. This stimulus must be the same to be able to test the differences in individuals. There must be something that must be established from

without according to a certain criterion, but which must be constant for all the individuals to be able to reveal the differences between them. It would otherwise be impossible to find them that is, if there were not the same instrument to test them. And if this conception is true and has permitted us to distinguish many naturally different individuals, this same conception must be true in education. There must be this common rock of comparison to be able to develop the different activities that evolve according to their nature, and to be able to see the true differences between individuals according to their nature. This conception that should be fundamental, certainly needs to be much illustrated. The researches of experimental psychology could partly clarify it.. For example the differences that have been positively recognized in the sensibility between individuals naturally different as e.g. inferior individuals, idiots the insane, criminals and normal individuals, have been possible because the normal and inferior individuals have been studied with the same instruments. It is known, e.g. how Lombroso discovered that criminals have a sensibility to pain inferior to normal individuals, and not only that, but sometimes when they are congenitally damaged like the recidivists and serious degenerates, they also have their sensibility in general diminished, e.g. the tactile sensibility, the thermic sensibility, But above all tactile. Often also there is a deficiency in the sensations relative to the greater organs of sensibility; alterations in sight and hearing. It is known that the idiots' tactile sensibility is almost nul, and how all the sensations are more stunted together with a diminution in sensibility to pain. In the criminals and hysterics a fundamental difference was also recognized in the perception of things, a difference in reasoning as also anomalies of will are found in these individuals. That which has undoubtedly attracted attention has been the examination of the sensibility that permits us to make a more positive study, and also measurable of these individual differences but this has been done without a touch stone which permits us to fix something external, so that the differences seen shall be the differences in the individual and not the environment which has influenced them. For this it is necessary to establish something that shall be common to all. Now this discovery made of the different ways of feeling perceiving, reasoning, etc, in insane criminals e

etc. (each one of which types has, one may say, lines of development physically different) it has been thought to re-educate all these abnormals, for ex., we have the re-education of idiots and criminal children. One of the fundamental parts of the beginning of their physical reconstitution is that of sense education, done naturally with established stimuli, until these individuals, can perceive reality, that which is true. In fact, we take from the external world by means of our senses, and we perceive the external world only according to the capacity of our senses.

If then the senses do not take from the outer world well, it is necessary to help them, to the end that the individual, on a precise guide specially relative to the objects which we can give, can acquire the possibility of gathering the truth exactly from the outer environment. This is the fundamental part of the re-education of all those who are unbalanced in their central system. In fact, all these individuals are unable to take the truth, the reality, from the external environment, and we speak of false sensations of these individuals, false perceptions, false reasoning. For ex., these individuals according to their nature outside form separate worlds. The outside world, for an individual of this kind, is not the same as the outside world for a normal person, who has been able to take in sensations with normal organs. Hence it is necessary to help these persons who are unbalanced, to take in the truth, then to order it and classify it. All this work, such as comparing one thing with another, perceiving differences, first the most evident, then always finer, to distinguish differences, put similarities together, is the fundamental work upon which the whole mind is constructed. For this it is necessary to fix the reasoning upon real things, by which the building up of the possibility of re-ordering is guided by something positive, and not only that, but by something which he can really give from outside, as though we took the external activities to reconstruct them ourselves.

This is what gives the hope that individuals who, naturally would not take in the truth, will do so, and those who would have false perceptions will one day have true perceptions, and those who would have chaos, disorder, will have order with a great educational effort, and those who

would have false reasoning would will have rational reasoning. Thus with precise means we can reconstruct the personality which is unstable and weak.

Now these criterions must be the criterions for the education of the normal individual, who has to construct himself from nothing. One might say it is the same principle that must guide all the operations of education. Begin at the beginning so that the individual shall take the truth from the environment to the greatest possible extent. This is what we must try to do with education. The rest is what we have always said. We must educate men towards the good and true, and to educate men towards the truth we must begin by putting them into touch with reality, with all the means that nature has given them, put them into touch with reality in a given way, - establish the way in which the individual can take the truth from the environment, and let not one individual, but all individuals have the same means.

We then see what they take from the environment, and so discover the individual differences, otherwise there would no longer be individual, but differences produced by external errors. So true is this, that where we have not this external criterion to be able to establish a guide upon which the individual differences can then be seen, we see the chaos which exists in our society. Here for ex., the genius is recognised too late, or not recognised, confused with the individual of medium or inferior intelligence; We recognise a criminal when he has already committed the crime, but a moment before he gave his hand to all honest men, was esteemed, held a high social position. Hence we have no means of distinguishing individuals one from another; this is the criterion that is lacking. It is not this disorder in which individuals repose that distinguishes in the judgement of the others.

We can begin to observe individual differences only when we have established something as a point of departure, as basis of comparison, as means of measurement. If we do not give a special uniformity in our aid to development, if we do not give something that is common to all as a means of normal development.

It does not therefore follow as a consequence of this, that we wish

to make all individuals similar to one another, to have them all formed in the same way, but on the contrary, we wish to find the means by which individuals can be distinguished by their own nature alone.

Now, I say that for this it is necessary to begin the construction from the beginning, and the first work is this, of giving order to the sensations, and of putting the individual in communication with the truth.

After having put man into communication with the truth, sense education proceeds to the perception of minimum differences between things, perfecting itself up to the point of the perception of beauty, the recognition of the beautiful from the ugly, and the enjoyment of the beautiful.

In fact, all artistic education has a basis in sensory education. We must therefore commence this inner building which must be constructed with the guidance of this help.

Now this help that we give is certainly not the education of the senses, but it is a means by which the individual can educate his senses. These are two very different things. We can determine something that guides the individual to order, but this is not the education of the senses, which cannot be done except by the individual himself. It is only the child the individual in general, that can educate his senses. Now when we give the means of education we have done all, but it is these means that must then produce in the individual the development of the sensory life. In fact, as I have said in these few hints that I have made upon the technique of the education of the senses, I tried to insist upon this point, that it is not educating the senses which we do, giving certain definite stimuli according to certain laws, for ex., giving first the identity of the stimuli, then stimuli always more similar to one another. This is not the education of the senses, however much it be the technique, which on the educators side has to guide and provoke the education of the senses. But we have an education of the senses when the child persists for a long time with a certain exercise and repeats it many times, and develops a spontaneous activity in relation to these objects which we give? Hence we have to guide this inner activity, provoke it, guide it and leave it to unfold, since all the work of man must be done by man himself. But in the development of motor life it is the repetition of the act that has a value to fix a coordinated

movement. Similarly in the sensory sphere, it is also the repetition of the sensory exercise, which causes development, which gives different qualities, different attitudes. We must therefore help the life of the man in this way

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## Lecture 2

For private circulation among the members of the class only.

This version of Dr. Montessori's lecture, being the translation by Miss ~~Montessori~~ and Pyle of the report taken down viva voce, Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorized for the personal use of members of the class.

Lecture of May 8 1914.

The biological investigations which are designated on the biographic chart have to be considered in relation to the study made of the development of the child in his entirety, especially of the physical development. The study which we make of the child, in his various phases of growth, is of the continuation of a life previously begun. And in order to interpret well this continuation, it is necessary that we should be able to have some notes even on the period which precedes life. Sufficient biological cognitions would be needed for making this study. A doctor could be of much help in this study: however the teachers and the mothers would have to include in their practical culture some knowledge of physiology and of the facts of heredity which can relate to the healthy birth and healthy growth of the human individual. Therefore, in order to make use of this page of the biographic chart regarding the biological investigations, it is necessary to have some ideas of a general character, and it is precisely upon these that I should like to dwell to-day.

And the visit we shall make to-morrow to the Braconificio will be able to illustrate better the importance of this study of the child in the earliest age. The individuals who come into being do not grow absolutely according to the laws of nature, but they may find some obstacles to that ideally normal development, such, for example, as might be inscribed in the destiny of the race. The individuals have, instead, to pass through difficulties more or less grave. These difficulties, these obstacles to his development which man can meet, and hence the individual differentiations resulting from them, we can divide into two main groups: some conditions purely biological, and others which are, on the contrary, also social conditions.



The conditions purely biological regard the particular reasoning, the heredity, and the prenatal period of the life. The science of Eugenics of which so much is spoken today, is just the springing up into a science of these forms of knowledge which regard the formation of the individual, the heredity, and these cognitions ought to be of service for a practical culture of all the individuals who would be able so to direct their actions, to the goal of them being able to procreate in healthy fashion and hence to make better the human race from the biologic point of view. Evidently the parents, if they are healthy, have greater probability of procreating healthy progeny. However the health of the parents is not enough; and there are so many circumstances having more or less influence upon the procreation of the species, the most perfect possible, strong and robust. One of these factors of chief importance, is certainly the age of the parents. There are a great many statistics on this question which demonstrate that parents too young have progeny not very robust and that the mortality among children coming from parents too young is very much higher than that of those coming from parents of normal age. Indeed, the body of the individual needs to be completely developed in order that he can possibly be able to give a perfect life to a new being. It would be like a biological effort, that of giving another life. It is necessary for the individual effort of growth to be finished, in order that this period may be able to come. Now it is held that the adult individual should have attained this complete development, and hence he should be fit for procreation when he is twenty five years of age; and this period lasts until thirty five. This period of about ten years would be that most adapted for the procreation of a strong progeny. Indeed the men of genius who have left the imprint of themselves on humanity have almost always had parents of this age. On the other hand, persons of forty or more years of age can not have a robust progeny. When we are talking of these matters, the lecture is based upon these statistics, moreover upon very large figures. Now it is not said that all individuals born from parents too young must be ill or too weak; but it is said that in general, the progeny of parents immature comes subject to a higher percentage of mortality and is less robust than the other. Not only the parents too young or too old; but also if the two

parents have a great disparity in age, there is the probability of not procreating progeny well. There are interesting figures, an enormous quantity, on the subject. I have wished to cite here only some regarding parents who were rich, who therefore were able to have all the best social conditions for a healthy life and who were healthy in body. The statistics treat of conditions of these persons who were in the best social conditions, taking into consideration as the differentiating condition, only the age. The parents of from fifteen to sixteen years of age have a progeny that comes subject to a mortality of 35%. Parents of from sixteen to nineteen years have a progeny that comes subject to a mortality of ~~25%~~ much less. The parents of from twenty to twenty three years of age have a progeny that comes subject to from 20% to 19% mortality. Then when we come to the precise age for the maximum hygiene of generation from twenty four to twenty eight years, then the mortality descends to 10% and 12%. One other fact, independent from the hereditary diseases which might be had, a fact unfavorable for the possibility of having robust progeny is, as is noted, the relationship between the parents.

Outside these conditions, purely biological, there are then all the facts pathological and those of momentary weaknesses; the which facts or the which weaknesses or states of inferiority have a most important bearing upon the progeny, upon the health and prosperity of the progeny. For example, as is noted, alcoholism, (however healthy the parents may be) has so much influence that many children of alcoholics are idiots, epileptics, etc.. So also overwork, excessive muscular fatigue: in short even all the momentary states of weakness, can have an influence upon the conception. Then the hereditary diseases, as is noted, have a great influence. There are many diseases, especially the diseases of the renewing of matter which puts the parents in true states of general debility; and there are some facts of heredity studied by the special pathological laws of heredity facts which demonstrate to us how certain diseases may be hereditary in a direct way, that is that the same disease repeats itself, and, on the other hand, there are diseases hereditary by groups. For example there can be some diseases such as diabetes and the nervous diseases which form part of the same group. So, for example,



tuberculosis, anemia, etc. These are themes more of medicine than otherwise; yet it is well to have this concept, that these hereditary facts exist. Today so many studies are being made upon heredity, the which are consoling compared to the studies which were made fifty years ago. Also Eugenics would tend directly to teach the reconstitution of the race. Now all these facts which a few years ago seemed fatal, for example, tuberculosis, diseases of the nerves, etc. are to-day embraced within a hygiene of the species. The conscience which is awakening, the science which is developing among civilized peoples, bear toward a true bettering of the race in general, and the applying of the hygienic rules referred to really gives the hope of being able to predict that.

The child's life does not begin from his birth, but we ought to consider it quite from the conception. Hence a period of infantile life to be considered is the prenatal period. Of course the study of this period can not be made directly upon the child, but upon the mother. To-day, how many principles of woman's work are based precisely upon this principle of the hygiene of generation! Working women in a condition of gestation are protected in many countries by special laws, naturally with the result of greatly benefitting the species. There are some true diseases proper to the prenatal period, for example some forms of nervous diseases, of meningitis, besides hereditary syphilis, but especially to be noted is the prenatal meningitis. There may be children who when born can already have had a form of regressive disease, that is, cured, but after-effects remain which represent a permanent form of inferiority of the individual. In fact these children are idiots of a very low grade. In general, the earlier the period in which diseases attack the child, the more serious they are for the future of his life. Because of this it is so important that individuals should begin to study themselves and to follow their own existence. Also here there is a moral principle which differs completely from certain superseded moral principles which were in great favor some ten years ago. For example, there was a sort of disdain of the body: not to take care of one's self not to observe one's self with method, almost wishing to forget the physical part in order to go on to elevate the part psychic, moral. Instead, to-day, we must consider as eminently moral the fact of preparing the well-being of the future generations, and in order to do that

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we need to begin from ourselves. Even when we wish to make others better morally we need to begin from ourselves; so when we wish to make better the species we need to begin by observing our own selves who may be the connecting link between the past and the future of life.

Therefore this criterion of methodic, scientific observation is a modern moral standard, especially for women, so much the more when they put themselves in condition to be able to procreate. For this there are today note-books which are given to wives, to young mothers who find in them a sort of guide for observing themselves and afterwards the child from the first day of birth up to the school period. they are the carnets maternels much used in France, in England, and now also in Italy, among intellectual families. These carnets ought without doubt to form part of the education of woman in the school. The data regarding the child at the moment of birth are most important. In these carnets maternels there are for example illustrative figures of comparison. Nevertheless everyone ought to know by memory a few fundamental data, for example how much a new-born child ought to weigh. It is noted that the new-born child ought to weigh three kilo-grams and be fifty centimeters long. there is coming to be used now in the homes a sort of balance in which the tiny baby is weighed. For the rest, whatever balance serves to weigh things in the kitchen can serve for weighing the baby; it is enough to have the forethought to weigh first the clothes and mattress and then weigh the child with clothes and mattress in order from the difference the precise figure of the child's weight. Moreover I hope that tomorrow you will be able to see well some sort of scales that measure the length of the body, and other data almost mechanically, in such fashion that anyone whatever can operate them.

There are some facts now established by the doctors with great study and richness of statistics which can serve as absolute laws for recognizing the healthy growth of the child. For example this fact; that the new-born child in the first or second day loses about two hundred grams of weight. If the child is robust he regains this weight at the end of the week; if on the other hand, he is not robust, he regains it at the end of the second week. Then it might be said that trained persons, careful, would be able, after two weeks from the birth, to know



if they are dealing with a child robust or otherwise. There are also other interesting facts; for example it is noted that the mortality of children varies greatly according to the skeletal physiognomy of the new-born child. You know that new-born children have limbs very small and body much developed in contrast to the adult; hence the thoracic perimeter of the new-born child is much longer in proportion to the stature than that of the adult. In the adult the thoracic perimeter is equal to the half of the stature; instead in the new-born child it is much longer than half the stature. It has been noticed that if the thoracic perimeter surpasses the half of the stature by nine centimeters the mortality for this child would be of 15% or 20%, which is a very low mortality\_ if on the other hand, the thoracic perimeter surpasses the half of the stature by seven centimeters, that is the thorax is more restricted, the mortality is double, of 40%. If the thoracic perimeter surpasses the half of the stature by only four centimeters (which represents a very narrow thorax for a new-born child) the mortality is of 70%. Here we see that a measure so very simple can nevertheless give a large concept of the probabilities of the child's life. Then there are figures which can be found in all the treatises and which I also can give later on, (which are found in the carnets maternels ) about the child's development in weight. For the first year of the child's, there is found a notable difference between the development of the child nursed by the mother and the one nourished artificially. The first attains the doubling of his birth-weight at the end of the fifth month of life and the tripling at the end of a year. On the other hand, the second arrives at this weight, that is the tripling, at the end of the second year of life instead of the first.

Of course when there are these differences there is an enormous difference in the mortality. It is most interesting to study the course of the mortality of little children and the general course of human mortality according to age. The maximum human mortality is in the first year of life; that is in the period of maximum growth. In general, when the organism is in the course of swift development it is also more subject to mortality and to diseases, that is the powers of resistance to disease are much less. In fact if we glance at the statistics of general mortal-

ity we find divers high points in the graphic line of mortality. Supposing this line to represent a construction of the mortality, upon it can be designated a thousand dead, and here, for example, the succeeding years, the course of the mortality for a disease. At this level here we have the mortality for tuberculosis which is one of the highest and most frightful of all human mortalities; at this other level, the mortality for typhus, and then the mortality for enteritis, which is the mortality of the babies is found high up here. If the mortality for tuberculosis is forty, that of the babies is a hundred. The mortality then decreases and reaches the minimum in the period preceding puberty, at ten years of age, hence when the period of puberty commences, that is, a period of rapid development, it again begins to ascend in order to descend again at the age of eighteen years. Indeed we feel great pity for individuals who die between the ages of eighteen and twenty years because this is just the period in which death is more rare and whoever has survived so many changes of fortune and has arrived at twenty years has every probability of living very much longer, so that the level of low mortality continues quite to forty years. Afterwards the mortality turns to increase up to seventy where it ceases, or almost ceases, because the individuals are scarce who still exist at this age. But in general, the mortality increases in the period in which there is a more rapid physical development.

In the anamnestic data, in these notes which we can take on the child with respect to the mortality, the points regarding the child's brothers may be extremely important, to know if they are dead and how many of them are dead. Then we can have a precise idea of the resistance of these progeny of those parents.

There are in the first period of growth three biological difficulties to be overcome which are characteristic of this period and represent an index of the individual's life force. Hence they can give us a prognostic idea regarding the future of the life. They are dentition, ambulation, that is, walking, and language. Dentition takes place towards the middle of the first year of life and deambulation and language towards the end.

Retarded or difficult dentition is generally a sign of skeletal

al weakness. In fact we have in great part this defect of development in rachitic children; however it may also occur in syphilitic children who have hereditary syphilis.

Difficulty of deambulation can occur from the same causes\_ for example, rachitics commence deambulation extremely late because of the physical fact concerning the skeleton, namely the child's legs are weak. However there may also be nervous facts which can retard deambulation, for example, a sort of paresis, not true paralysis but half paralysis, signs of paralysis which may even go unobserved by one not intelligent regarding these things. Indeed the doctor will be able to observe many suffering with paresis whom the mothers believe to be only retarded in walking. This paresis has an origin in spinal disease, a lack of coordination of movements from spinal origin. It is Little's disease which would represent this condition in intensified manner, in an extremely developed fashioned. Then there are some children who cannot walk because of facts of the brain. These are the conditions which might be of most importance for a teacher or mother. There are some children who cannot walk because they do not come to acquire the equilibrium: they are not diseased, there is no skeletal weakness, paresis, no pathological fact whatever, but only a difficulty of coordination of movements, in such a way that to recognize these cerebral facts and to aid these children to these coordinations can bring to pass the physiological phenomenon which in other children is spontaneous and natural at that given age. They are facts of intelligence for which there is only one remedy, the pedagogic remedy.

Also retardations in the development of language may have divers origins. Here it is noted that children of very high intelligence, more intelligent than the average child, are sometimes retarded in the development of language. It is a question of children who begin to speak with an entire sentence instead of syllables or stammered words. I have known a friend of mine who had a child of this sort most intelligent, who was slow in developing language and the first phrase she spoke they were hunting for an object which had been lost was this, "Dietro il paravento." (behind the screen)). Now when we teach the children spontaneous writing by our method, we see how there may be individual differ-



ences for which some children begin to write a letter,, a syllable and ~~and~~ exert themselves tremendously, make a thousand mistakes in trying to write a word,, and some other children who do not take the chalk in their hands,, who seem slow, <sup>at</sup> but who all once write, a little composition.. This parallelism between the development of articulate language and that of written language is of great interest.. We cannot say that the child who has retarded language should be for this reason a backward child.. He may be quite the contrary..

On the other hand,, very different from this is the case in which there really is a difference in language, a retardation of language, when this depends upon a degree of deafness.. There are in fact some forms of deafness which tend to make the individual dumb; and then it is possible that individuals can <sup>never</sup> talk because they cannot hear (and these individuals will be able to talk only by means of a pedagogic cure, never spontaneously) while there are some children who develop language later but not perfectly.. They are somewhat deaf; they do not hear completely all the sounds of the words, but only the principal sounds, hence they speak badly. It is not a true defect of language, but, notwithstanding that, it is often thought to have them cured by specialists in the cure of language, <sup>as</sup> where these defects of pronunciation are defects of hearing, not of the organs of language. It was Itard, one of the first who recalled the attention to this interesting fact, namely that even the semi-deaf the semi-mute, those who have serious defects of language, can be corrected, — it was for these children that Itard began his sensorial exercises of the hearing, by which he educated this hearing.. He spoke in a loud voice, separating the sounds of each word, and so he re-educated the language.. For these defective children, therefore, it <sup>is</sup> of great importance always to pronounce the words well, in a high clear voice; because even if the children have perfect hearing, they have not however that education of the hearing which permits them to differentiate all the different sounds composing the words; in as much as it is difficult for the ear of one who has been in the world for a short time to hear all those sounds which ~~who~~ <sup>those</sup> have had more practice,, who have lived longer, hear better, perceive intuitively, reconstruct. Hence it is necessary in educating little children to say, not many words one after the other very rapidly,



but to pronounce words, isolatedly, with great clearness, almost scanning their component sounds. One might say that the children ought to hear again, by means of a special training for the purpose, all the fundamental words of their language, and mothers ought to speak the first words to children with great clearness; while instead, up to a short time ago, the opposite was done, that mother tried to speak as the child spoke. To say "coo, pepe," etc., to come down to the child's level in order to act like him was the prejudice in all child-training. It was said; "The good teacher, the good mother, is the one who knows how to make herself a child with the child. Instead, it is necessary always to make of the child a man when he is being educated and to help him to pass over the infantile period which is the period of passage in order to aid him to attain his goal and not just to remain in that passage.

Finally there are some children who are greatly retarded in speaking for no pathological fact whatever, but simply because they have a defect of association in the brain. They do not know how to learn to talk and this is the same thing as that of the children who cannot learn to walk, who must be helped to accomplish these physiological facts which the normal child accomplishes spontaneously much sooner. It is a question of all the categories of children, the retarded, the weak, the deficient, etc.

To make these researches is not very easy if the mothers have not gathered together the data. We have to stand on the testimonies of the mothers; and mothers who have not been educated to follow their child's development lose the memory of these particulars, especially if they have many babies. If, instead, the mothers should have the carnets maternels and should take all these notes with the guide which they give (for example they designate when the child cut the first tooth the second, how, largely, he passed the first year of life, the second, in such fashion that mothers have only to write a figure, a yes, a no, so much at one time)) if they should have these carnets, a written datum would be enough to give the most precise notes on human development. Afterwards it may be the task in part of the mother and in part of the teacher, to follow the child's development when he enters school.

Besides following all these phases of development together with

each other, we also need to have notes on the illnesses which the children may have had in the first years of age. There are some diseases which have an influence on the future growth of the child and some more or less indifferent. The two illnesses which have the maximum importance for the successive development of children are the cerebral illnesses, children's convulsions, and the intestinal disturbances, prolonged enteritis, because these have been prevented for the child, a healthy nutrition and with the nutrition the augmentation of the tissues. The children were ill-nourished because the nutriment was not assimilated for a long time, precisely in a period in which the body was developing. Convulsions leave permanent traces because they are the expression of results of meningitis; finally other maladies, such as infectious diseases, have much less importance. There are children who pass from one infectious disease to another. These certainly represent individuals who are in a particular way predisposed to infectious diseases and therefore prove themselves to be weak, but it is not the infectious disease in itself which leaves real traces in the child. Thus infectious diseases are parcular to children, those mentioned, exanthemata, the measles, etc. were at one time considered as necessities for the child: it was believed then the child should have those maladies and there have been parents who, having three or four children, one of whom had the measles, put all the children in the same bed, because they said; now it will concern us to lose time, to spend money successively for the doctor for each one of them: let us put them together and thus we will have the one care only. There has been a veritable struggle against this prejudice. In Italy there are from twenty five thousand to thirty five thousand deaths per year due to measles and the exanthemata of infancy. So then we have the revelation of a very dangerous state of ignorance in the people. Nevertheless, this fact is so simple to understand, that maladies can never bring good and that it is not in overcoming maladies that we become strong, and that no malady is necessary for the growth of the child. This effort of the organism to overcome a malady does not reinforce the organism. It is true that there are those infectious diseases which do not leave traces in the after life, but the fact is never reversed, that is, that there might be a malady useful to growth. No one will ever



think that the strength of the organism against infectious diseases, should be acquired by becoming ill with many different infections and then recovering; nevertheless, this prejudice did exist.

Now we have a similar prejudice concerning the moral facts, of the will ~~and~~. We believe that the child reinforces himself surmounting certain efforts to which we wish ~~to~~ compel him, and we think that in making these efforts he fortifies his moral organism and that on the contrary in avoiding these efforts he would become a weakling, because he is found never to have surmounted obstacles. The hygiene of the child on the contrary in all the rules of the physical, moral life etc., is not to lose his proper forces, but to be sheltered to the end that he may grow robust and not have any of those vain losses of force or struggles which depress and do not fortify. There are so many prejudices in the moral life that we can but simply hint at them. Just think, for example that some time ago it was impossible to persuade mothers and teachers that there are not some maladies which fortify against the other maladies! I was professor of hygiene at one time, also for teachers and these teachers continued to be my friends. One time, some years after this course, I happened to confirm these principles and the teachers said to me: "These things are providential, everybody should know them." I answered "I am sorry to have given these lessons because you do not remember them."

When the child has come into school we follow his development, taking measurements etc. but it is necessary however in order to be able to interpret these measurements and these physical studies which we can make of the child, to have not only the figures of normality for comparison, to know if the child is developing normally or not, but it is also necessary to know under what social conditions the child develops better or worse, that is, to know what are the normal conditions of development. There are cardinal facts which should guide us in the interpretation. Let us put aside all the pathological facts (one can understand that sick children grow badly, and the rachitic children, those who have any form whatsoever of infantilism, children of alcoholists, of tuberculars etc. one agrees that all of these individuals who are in a pathological category grow badly in comparison with children who are biologically healthy and perfect)) and here also let us make two categories,

one biological and one social.. There are individuals who although born perfectly well can; because of social causes,, because of the environment in which they grow, grow differently from the way in which they would have grown by natural election, by their biological privilege.

One of the causes which influences the development of the stature very much is the mechanical cause.. One might <sup>say</sup> that all the development of the body in its entirety excepting the development of the thorax is in report with the nutriment. In making statistics of individuals belonging to different special categories in the same mixture of population, one finds that the better nourished people are taller and the less nourished are smaller and the least nourished social class is on the average the shortest.. Some might think that these diversities of stature should be attributed to the races, but if one thinks that in the same mixture of population, those who were rich fifty years, fifty years later ~~are~~ are poor, that many patricians become laborers etc. one understands how the social conditions may have the same oscillations as the race. We have then a veritable classification of the parallel stature as a perfect means for the classification of the social classes,, according to nutriment.. Not even open air has an influence upon the growth. One has a proof of this, in studying the stature of the peasants in given countries where they are well nourished and in other countries where they have bad economic conditions. For example in Italy the special category which has the lowest stature of all,, is that of the peasants, amongst them however, those from the mountains have a lower stature than those from the plain, because they are poorer, because it is more difficult to cultivate the land, because the rains scatter what has been sown etc. This fact of the diverse level of the cultivation which gives diverse economic conditions produces its effect in the growth of the body. Vice versa in England where the country people have flourishing conditions and the laborers have not,, the country people are tall and the labourers are not. In short, independently from race and from any conditions whatsoever but just in direct relation with nutrition one has the development of the body in its entirety. All the statistics of the pupils of the schools,, poor and rich, give notes which demonstrate that naturally on the average the sufficiently nourished children are taller..



Now we know, to-day, that sufficient nourishment is something altogether different from abundant and luxurious nourishment, therefore one can give children the conditions for normal nutrition without a great effort. The act of giving the rational scholastic refection implies a betterment of the race. It is not only the beneficence done to the child or the saving of physical forces but it is actually the betterment of the race which we can in this way obtain.

On the contrary the development of the thorax is in direct report with the oxygen, with the conditions of life in the open air. One might say that the opposite fact takes place from the growth in stature. The persons most elevated socially and especially the persons who study most have the narrowest thorax. In general the students of the University are in the category of individuals who have the most compressed thorax, on the contrary, the cart drivers, peasants etc. have the broadest thorax. The sport of to-day may lead to the strengthening of the thorax, a thing which is fundamental because the thorax is in direct relation with the physiological life, containing the lungs, which not only give oxygen to the blood and permit a more active life, but they are also the organs in which tuberculosis thrives. Therefore, to eat well and to breath well are two acts fundamentally necessary in order to grow well. Hence it is the scholastic refection in the schools which has brought together the two facts which tend to better the race.

Then there are the mechanical qualities which come after these, concerning the development of the individual. Many laborers are shorter according to the work which they perform. For example those persons who must stay curved over a great deal especially if they began at a young age. All that which is said against child labor, in protection of the child, is fully illustrated by the deformations which come in the body, and the difficulties in development which insue from the fact that the bodies of children and young people must be subjected to positions unfavorable to the development. It is thus with the underground works etc. The position of the pupil who must sit curved over when he writes, also becomes like this. This might be the malady of the work of all the children of humanity, a mechanical deformation of the body of all individuals.

Hence nutriment, school in the open air and to prevent the children from having to adapt themselves to a work which deforms them, this is the basis for a hygienic school from purely physical point of view. There are so many other secondary conditions among which is the temperature

Some time ago the question was raised as to whether the schools should be heated or not, if the child from the time that he was little should be accustomed to live in the heat or in the cold, go naked etc. This prejudice existed in the schools, that the child in order to grow virtuous should be accustomed to the cold and that there was very great danger in heating the schools. We have the example of nature, that beings in the process of formation need heat in order to grow, thus living beings with hot blood, the superior animals, especially man, are formed in the maternal body which is warm. The birds also must be hatched at a certain temperature and it is known that if babies are prematurely born, the best way to make them grow is to keep them in an incubator, in great heat. Then heat aids development. In the statistics of growth, it has been found that children grow much more in the summer than in the winter.

I too have proved in the Casa dei Bambini that the growth in the summer is from about seven to eight millimeters and in the winter from three to four, about half, from this one might say that children should never be exposed to the cold and always be where it is very hot. Certainly children should be much in the heat, they should have a way of warming themselves and when the individual is thoroughly warm, he can also be exposed to the cold and resist it and do a kind of thermic gymnastics, but in order to do these gymnastics he must be thoroughly warm, he must be reinforced with heat, just as persons well nourished can endure a long fast, the persons thoroughly warmed can go out in the snow without suffering and vice versa, people living in cold houses, freeze when they go out in the snow. It is always this note which I would like to put as a recurring motive. To resist the cold, one needs to be warm. So to accustom children to the cold means to keep them thoroughly warm. To say that in order to make children robust, it is necessary to expose them to the cold is a mistake just as it is a mistake to say that in order to make a man robust, it is necessary to reinforce him against obstacles, by

making him surmount many. In order that a man may be able to surmount of obstacles, he must be strong because if he weakens himself in the effort of surmounting many, he will become weary and will no longer be able to surmount them. Physiology demonstrates this clearly.

Finally there also, <sup>are</sup> some causes which can have an influence upon the growth of children and upon the life of the individual, causes of another kind, but which are nevertheless ever the same, which serve to maintain the child and the adult, to strengthen the weak and to help the strong to become stronger. There are conditions not physical but ~~physic~~ <sup>psychic</sup> which can help the physical life of the individual. This principal, which to-day is especially defended by those who interest themselves in the education of children, is very clear but it suffered at its triumphal introduction into the camp of the definitely accepted postulates, because we have stopped our ideas, above all in the material part of life, in the material contributions of life. But without doubt there are facts of ~~psychic~~ <sup>psychic</sup> order which have a particular influence upon the life of man, for example, affection and all the stimuli which the environment can give to the intelligence, which help the physical life. This principle may perhaps be obscure to those <sup>who</sup> have not yet thought of or studied the question: but it would suffice to think of some of the theories which have been held which to-day are corrected but not dropped, for example, the physiological theory of the sentiments. They are really no longer physiological theories, but physiological facts which are in relation some states of the soul. The theory has fallen but the fact that there is the state of the soul, corresponding to the physiological fact, has not fallen. For example, terror and fear change the pigments of the body and all the exchange and renewal of matter. For example it is known that people's hair has turned white because of grief etc.

A very common case, that all may have been able to prove is, that moral pain is not something which remains in the soul, but rather that we feel an anguish in this suffering which is a purely physical fact. If we were able to abstract ourselves from our body as the saints do, we would be able to pass through those moral sufferings, in that kind of beatitude which belongs to those persons who are said to have passed



above human sensibility. People in general feel the insupportability of pain because of the physical effects; the heart becomes weak, the circulation of the blood is so slow that the individual is permanently pale, all the functions of the body are slackened, the salivary glands do not secrete saliva, the mouth becomes dry, the person cannot speak also because there is a sort of paresis of the vocal cords, the stomach does not secrete the gastric juice, hence the lack of appetite, the impossibility of digesting and the emaciation. It is the moral state which has an influence upon the physical body, therefore if those people who find themselves biologically in the social conditions most favorable for alimentation; have a permanent affliction, they have unfavorable physical conditions. People who suffer, are cold, have cold hands and it is useless to warm them. If a stove were capable of mollifying anguish, where would the suffering of humanity go? Thus there are facts which have a potent influence upon the physical, which surpass all the means we have for helping the physical body which is more subjected to moral factors than to the environment. The needy can be helped by having food given to him, but not the afflicted person, and if the person does not know how to surmount his moral suffering, his physical condition will not improve. Tuberculosis and maladies of nervous anemia are more apt to attack people in this declining physical condition produced by moral causes, but in every way similar to the effects of physical misery. Thus the heart the nerves and the great sympathetic whole has an inferior, lesser action so much so, that arriving at an extreme point, one could even die. In fact one says: "So and so bores me to death." There are examples of people who have fainted from boredom. I too knew a person of my family who was afflicted with a friend who always told the same long stories, in the same monotonous voice. When these began to come, he felt ill and one time, unable to endure it any longer, he fell on the floor in a faint. To die of boredom is a positive fact. One could really die of boredom we do not die because we defend ourselves against it. A sort of paresis may come from boredom. The yawn, for example, is a sort of reflex movement which starts the circulation of the heart and it is by the yawn that we are saved from something boring which lasts a long time. One must



teach people not to yawn, but not too much, because respect for people is one thing, but the respect for life is of greater value. Besides, people should not bore others to this extent of paralysing the heart without deserving the impoliteness.

Vice versa, pleasing things and the circulation of the blood. A person reddens upon hearing a piece of good news. A case is known of someone who died of apoplexy upon the announcement of an unexpected good fortune. One should not give a joyous piece of news especially to those suffering from heart trouble because the heart works with such facility that it can send a great quantity of blood to the cerebral vessels and produce a hemorrhage. Thus an aneurism can be broken in an access of joy. The person giving way to joy not only has a great deal of color, but perspires very easily, is rich in all the humours of the body, has much saliva, can speak with facility, has vigorous vocal chords, his blood circulates very well, not only that but the material exchange and renewal of the tissues is much facilitated so that the happy person has an especially florid aspect, from whence comes the phrase. The face of a happy heart, because he not only has the aspect of a well nourished person who eats well but of a happy person. Nutriment and joy are two facts which together aid the life of man, rather the state of joy aids the physical life even more than abundant nourishment because this concerns the digestion and the stomach, but joy concerns the material exchange and the renewal of the tissues, which is that which gives the sturdiness. The sturdiness is not aided by the introduction of a certain quantity of nutriment into the stomach but by its assimilation. Now the assimilation is the transformation of the substances assimilated into the living substance of the tissues, it is an internal act which we cannot produce artificially. Joy extends her influence into the very intimacy of all the tissues and it is the whole life which grows because of it. In fact the material exchange and renewal which operates well makes the bony tissues increase and as these are full of blood-vessels, all this aids life to develop much more than the nourishment. It is necessary to give nourishment, if not the tissues have no material to take, that is, it is necessary to give the substances, but joy comes to make men grow well and to make men live. We say that w

we must make children and men happy, but in order to make them happy that which is wanted is that we make them live. To make them unhappy is to impede life. It is necessary to give children food to eat and oxygen to breathe, but the nutritive substances, if the physiological conditions are not such as to be able to utilize them, are entirely lost. Little nutriment, well absorbed and well transformed into the tissues would suffice to give health. One of the great principles of the economy of alimentation of to-day teaches that all substances want to be utilized, if not, it is useless to introduce them into the organism. If all the substances are to be utilized it suffices to give men less to eat and to make them happy. The whole question of well-being of the physical life does not lie in the quantity of nourishment but in the means of making it digest not only a good meal but a good digestion. Now an excellent good digestion is that which gives pleasure. If you are invited to a succulent meal with a person who brings on cardiac paralysis by boredom it is useless to eat well, but if you have a frugal meal, full of joy, with a sympathetic person, you digest well and are much better nourished. In speaking of aids to the physical body, one speaks abstractedly if the material substances only, are considered, especially when the body is in process of development. At that time not only the growth in dimensions but the beauty, all the biological potentialities which are in the body are being helped to attain their finalities. We can say without fear of contradiction, (like those who speak in such a way as not to be believed: "Time will do me justice.") we can say with security that time will do justice, that a way of making children become robust and beautiful is that of making them happy. There was a teacher I think it was in the institute which we are going to visit tomorrow, who became attached to a very ugly little boy and she said to a lady who made visits to the institute: "But do you know that the child is becoming beautiful?" The lady went to see the child, saying within herself: "The eyes of that lady see him as beautiful, but he is ugly." Another time the teacher said "But it is really true, you know that the child is becoming beautiful." And the lady thought: he will always be ugly, but when she again saw the child, she stopped astounded, since

really he had become beautiful.. In the beginning,, the lady, who was indifferent could not see the beauty which was commencing, but the person who had incited it, saw it. Growing in a state of happiness, all the powers came to attain their finality, and the child became not only more robust,, but also more beautiful.. I remember our children at San Lorenzo miserable anemic children.. I ~~was~~ was a physician, with some of the material prejudices of the physician said to the mothers, "You have sick children, they need cod-liver oil and medicines, take them to the dispensary and find doctors who will treat these children for you." But the mothers were ignorant and miserable nor did they have the time to take them to the doctors, not only this,, but as soon as our children were able to help them in any way, they made use of the work of their children in many little services, so these children had no physical life whatever, but they commenced to be so happy, and little by little they began to be so contented that they developed astonishingly. Their faces had better color, they were more beautiful,, try above all, they had more color.. We did not give the school refection, it was the inner nutriment of the tissues which was improving. The adult man also has need of this life which is not material, of this psychic moral, life, in order to live not only to be happy, but to live materially, so that the body may not become depressed, and die. We in Italy can have only too good a proof of this because there is a very cruel arrangement here for criminals. Really Italy is very civil as concerns her point of view on the criminals because she has abolished the penalty of death. One may not be condemned to death for any crime whatsoever in Italy, but there is a kind of parallel death, because, the persons committing a serious crime are condemned to that which is called a cellular prison, which is the segregation of individuals? At the present, however these cells have been improved from a hygienic point of view: they are quite large, have a certain quantity of light and then the condemned can also walk in the open. To each cell there is attached a little court with a high wall, where the individual can go out,, walk and get the air.. Finally,, there is a cell where the criminal can sleep, a court where he can walk, and he is given sufficiently good nourishment.. So then it might be said that they



had been given the pardon of the body, that the physical life is given to these prisoners but nothing else. They can sleep, breathe, and walk. Just as a hen would be put in a coop, in conditions sufficiently good for her, this man is put into the prison cell. He has the same life as the hen. A little shed, an enclosure in which to move about, water, and food. The walls are absolutely bare: these persons may never see anybody they may never hear a human voice, may not read a paper or have any information whatsoever of the outside world. It is known that these people scarcely ever finish their sentence, because they die of tuberculosis or one does not know of what, of lassitude. This state is a condition impossible to life, so much so that one says: The condemnation of apparent death has taken away, but another death, more cruel because slower, has been given, a death of the body, even though they give all the conditions of material life to the prisoner. These individuals have a life which might seem to be an ideal life, to which at times some might look forward as an inspiration to be fulfilled. One says: "that person has nothing to do, has the walls all one color, which is the latest style, he enjoys silence, has as much light as is necessary, can take two steps without being bothered, does not receive letters or papers, what more could he wish for?" All the conditions of physical life have been attained and still this man dies in the physical body. He sees no colors, hears no sounds, sees no forms, whilst this is a factor necessary to life, without which it languishes. It is a necessity to have to exercise the intelligence in following information concerning other men. Who does not know that prisoners retain a profound love for the persons whom they have left in society, because they live on this love, so much so that sometimes those who guard the prisoners cruelly profit by this by trying ~~securing~~ secrets from the prisoners themselves. Because the prisoner thinks of these affections as something which makes him live, because one does not live by bread alone. When, therefore it is said that it is necessary to give the conditions of life to the individual, it is not enough to give the material conditions. The life of man is made up of so many diverse things and it is above all the psychic life which is of value, not only in itself but because of the affects which it has on the body and the skeleton



which should grow, on the muscles which should be nourished, on the blood which should flow. When it is said that the psychic life of the child must be favored, to give the child the conditions of his psychic life, that which one is saying, is at the time physiological, because it is not an abstract fact, but it is a material fact, which is proven to us by the way in which life is all united and is complex and by the way in which it must be considered from all points of view, since otherwise it is an abstraction. To give the conditions of life in this way, we must give the conditions of the whole life. Because man is able to work, all the more is he in need of this psychic nourishment. It does not mean to say that man, transforming the environment, flying, going ahead in civilization etc. ought to eat more, breathe ozone as well as oxygen. Let us still keep the same conditions, rather eat less, breathe this pure air (perhaps less than of old, because the cities are constantly becoming larger). But man has need of one thing more: of a more intense psychic life, to more fully nourish this, the principle part of his life, in order to be able to work more. It is of this psychic life that man has great need for the progress of the body. And this, I believe, is the cry of the times, the need of taking as point of view <sup>ing</sup> ~~begin~~ with infant education, also as the fundamental fact of the physical life, the need of the psychic life. The rights of the psychic life should always be more protected. Humanity has need of spiritual regeneration more than material.; The very laborers say it, who, having had ~~extra~~ <sup>an</sup> extra loaf of bread, feel that their aspirations continue because they must go in search of intellectual elevation, and of an ever larger enjoyment, and they feel this their right to elevate themselves, not only to eat. All the enjoyments which are psychic stimuli, the artistic and intellectual enjoyments form the nourishment of this life which grows and which is the life of humanity. The cry for redemption of the people at this moment is, above all a spiritual cry, not yet clearly heard, but which we perceive in the depth of our conscience, because this is the foundation of our whole life which is the spiritual life.

## ✓ Lecture R

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Lecture of May 12th & 15th

There are pedagogists, psychologists, who hold as a key to education, as the psychological key to education, the knowing how to hold the pupil's attention upon determined themes. In fact in order that children can be instructed it is necessary for them to pay attention to the teachers and this is just what presents the greatest difficulties in practice, because of the fact that children do not pay attention to the teachers and what they are teaching; and it may be said that the whole art of instructing is the art of attracting the attention. This fact is of the greatest simplicity, and is evident it forms part of matters not only of pedagogical interest but even of clinical interest, of medicine - pedagogical interest. We might say that the examinations of abnormal pedagogic psychology are examinations of the attention.

The discussions which are made from the purely psychologic point of view are too extensive and do not enter into the field of pedagogy but it is well known that, according to the psychologists a "spontaneous attention" is distinguished from an attention "conativa", that is an attention by effort.

The spontaneous attention persists so long as the interest of the individual who is giving attention, or as long as the stimulus is able to act (while this attention is purely reflex), the attention, "conativa" is always very short? Attention cannot be held fixed upon a thing by force for more than an instant; and this is why those who educate must always be changing the subject when they wish to force individuals to remain attentive to that which the masters wish to teach. You will know all these things.

and there is no need for me to explain them: they represent, I repeat, the whole pedagogy of the times - to find the means by which the child may be able to pay attention for the given time which is sufficient for him to be able to learn what the master wishes to make him learn.

For attaining this purpose there are many theories. EG one of those most in vogue is to stimulate the pupils interest, also seeking to interpret certain psychic laws. To stimulate the interest of the pupil, artificially, from the outside; by various means, EG. exposing some objects, joining new cognitions to cognitions already known, with a special art, which is the whole pedagogic art. Evidently this pedagogic art can only be applied where there is a certain mental development and not to little children who are considered characterised by the instability of the attention, so much so that very little children are considered from a psychological point of view, in a form almost parallel to the mentality of the imbecile, because the little is precisely one might say, the prey of external objects.

James says; "The child is continually being conquered by objects he belongs to the objects which surround him, because his attention passes rapidly from one object to another."

But when it becomes more possible to hold the attention, then all this art begins. Certainly it would be most useful to have a clear picture for all this so that there might be a perfect recognition of this state of things. All those who are teachers should have this clear picture before their minds. It is the picture of the difficulties of the school, a picture which I cannot give, which you surely know far better than I.

The first time that I thought I saw something out of the ordinary in the little schools which I had founded, and the episode from which the whole organising of this method of educating commenced, is the phenomenon of the attention. It was the question of a child who was doing an exercise with the solid insets; she was putting in and taking out the cylinders with the constancy that struck me, precisely I knew well that little children have that inconstancy of the attention. I then, who had been an educator of imbecile children many years before and had a special interest in the study of the attention, knowing n



naturally from other studies the noted characteristics of the attention of little children, I was, then much attracted by this phenomenon and waited to observe it completely. Then I put this child, chair and all upon a little table, and I saw that she still continued to put and take out these cylinders; then I made all the pupils sing a song and this child continued to do this exercise more than 40 times. This fact was a new fact, because it represented a phenomenon of constancy in the attention of a child about three and a half years, who should not have had this characteristic, according to the ideas which exist in our times; whereas this one may say, is the principal characteristic of the psychologic phenomena which our children present, that is to remain constantly at a determined work and to repeat the same exercise many times, e.g. more than 200 times, a thing which really no teacher had ever dared to pretend that by all the efforts of the pedagogic art they could have hoped to introduce it into the schools, or to imagine it.

There does then exist a possibility of exercise of the spontaneous attention which will surpass all those exercises of the attention which can be artificially provoked from the outside. If this is so, the criteria of education and the difficulties of education must also change. It is not important now, to know what theory we should establish over these facts. The most important thing, without doubt is to witness the fact. For example in the observation which is made of children, it is important to note these phenomena, so as to know that on these phenomena is based as is seen, a process of spontaneous education of the children, which naturally gives results which, within the limits of the experiments which we have made up to today, of children from 3 to 6 years, are noteworthy.

It is very difficult for us to wish to contemplate the attention apart. The attention is a tangible exponent to us of the external part of facts, most secret and mysterious, which occur in the totality of the personality of the individual. But evidently, at least I believe, we cannot consider attention by itself. Certainly, the attention, if it were really a something which could be taken, would have the greatest importance in itself. Many psychologists, and James



himself say " To find the means of catching ~~that~~ holding the attention of children, this is to find the method of education par excellence". Evidently it is sufficient that we can take the attention, it amounts to the same thing as to say, the concentration of the whole personality of the individual on an argument, and to hold it there at our good pleasure and to act so that by means of this what we wish to make penetrate into the mind of the individual shall penetrate there, and carry this mind there were we wish; all this would be to create the man..

Really, the method of education which would make us masters of the attention would make us masters of the formation of men. But,, say all these people, precisely this is the great difficulty.. It is just here, that the methods adapted for this aim are not to be found,, it is just ~~here~~

here that precisely the manner of holding the mind in that given way which we wish is not to be found. This is a most difficult art which cannot be established by rules in which we have to give largely to the teacher which will be his special art.. For example, a sort of dramatic quality will occur in his art because he knows how to seize to hold, to sustain constantly; not for an instant, but always, the attention of a mind which is forming, and conduct it where he will.. In practice all agree in saying that this art errs .. Precisely this is the great difficulty, so much so that it is said: "One should accustom the children to this great effort so that they will be able to pay attention without our having this art to always hold the interest alive".. Then we need to act in such a way that they may train themselves to an effort (because in life also they will be obliged to make this effort) to the effort of following the teacher..

In the mean time this principal,, that the effort may be of value from the educational point of view and that in it alone there may be the real volitional act,, might have a very easy criticism. Attention is always an expression of will,, and that volitional expression which has a continuous character ought to have a practical value;; but not that,, which, has only the significance of a restraint or of a strain of any kind whatsoever.. Let us make E.G. the comparison of the attention,, which is like the an activity with movement; one might say in this sense that the true voluntary movement which we should educate, is that

which responds to our command e.g. when we wish to make someone do a gymnastic exercise or to hold a person still in a given position. One might say : voluntary movements are those of the individual who wills to obey, and obeys being in that position, making that movement or being in that state of immobility; the others are spontaneous movements. But instead all the movements are voluntary: the name itself says it; and if there be a utility from movement, it is that from the movement which can establish itself, not that which requires the strained effort of the movement. Movement is always voluntary to such an extent that physicians know well what a passive movement, which is not voluntary signifies. What do we do to procure a passive movement in the individual? We ourselves would have to move the individual's members. When the individual moves by himself, he makes a voluntary movement, but if the physician moves them, he produces the passive movement. Sometimes it is necessary for some treatment of members which have been immobile for a long time or for a gymnastic purpose. Then it happens that the person always resists. When we wish to force someone to make a passive movement, e.g. to take a person's hand or arm in order to band: then in doing this we only overcome the person's instinct for resistance. But instead when it is necessary to conquer this resistance there is one means only: the chloroforming of the subject. It is only in the state of profound sleep that the individual does not have voluntary movement, does not have the resistance towards the movement which we artificially wish to provoke in him. Consequently to speak of activity as voluntary or not is incorrect. One should say: these are strained efforts, which however cannot represent a really utilisable part of life, because life cannot be the result of continual strain.

For example trains without doubt must have brakes which permit them to stop, and they must have something which permits them to be conducted according to the railway track. Certainly without all this one could not use the railway: but that which moves is the steam: it is the motility by means of this special pressure, which is of value: the rest can be taken into consideration but is not the principal fact.

because the machine must first move and then be guided and stopped.

Such a theoretic on the attention is complicated and does not enter directly into our argument because that which impresses us is the practical point of view.

The fundamental pivot of the pedagogic act is that to attract the attention, and to know how to hold it, because the attention is that which puts the life of the individual into communication with external. By means of it, it is possible to appropriate the inner activities of the individual, polarizing them upon that which we wish to fix in the mind of the same individual and we give a similar importance to attention in medicine also. Attention should be the most tangible external experiment of the inner life, and also that which may be most subject to experiment. Thus in medicine we make the prognosis of educability on individuals, inferior as to psychic personality based upon the character of the attention; and we try to diagnose, as I have suggested, the inferior form of mentality, testing precisely attention. Thus E.G. when an idiot is presented in a medical clinic to be examined, the first thing we do is to test his attention; if the child lends his attention immediately to an external stimulus, we may say that perhaps he will be educatable. Thus if a bell rings and the child responds, it means that in some way it is possible that the child may be educatable. The diagnosis is also made by means of this examination of the attention. For example, the idiot is the individual who has great difficulty in carrying his attention on to external stimuli; the imbeciles instead are those individuals who respond easily to a stimulus; a sound, a colour, a light, any object which is presented, summons the attention of the imbecile, but is immediately distracted by any stimulus in the environment. For example, one sees this child who responds to a person, turns around to observe an object, then he hears a cry, he turns again etc. And then it is never possible to hold this attention which responds vivaciously to all the stimuli of the environment. Therefore the character of these two types of inferior mentality is clearly distinct. Idiots can be educatable by stimuli more or less strong. Thus Seguin to summon the attention of idiot children, fired a gun, or made a vivid and unexpected flash.



oflight penetrate into a perfectly dark room where he was keeping the children. Strong stimuli or unexpected ones are those which can attract the attention of a very torpid individual, in response to the stimulus of the external environment. And when the individual responds to a strong stimulus we can hope that the successive education may be able to render him capable of responding to stimuli always more delicate. For example, there is the very interesting of Itard upon the savage and that other of Pinel. The great psychiatrist the first time that the child who did not speak and was supposed to be deaf, was presented in examination, had a pistol fired near the ear of the child, but the child did not turn around. Nevertheless one time, the child having heard the softest noise which came from a room near by, the noise made by a person holding two nuts between his fingers and rubbing them delicately together, he bounded to his feet and ran. Hence he was not deaf: he was evidently incapable of being attracted for the first time by strong external stimuli, so much so that in spite of a pistol being fired he did not move. But in relation to the external stimuli, he had undergone a natural education. He who had always lived in the intimacy of his forest had on account of this, given himself a sensorial education, so that all the noises of natural objects were capable of attracting his attention in such a very fine manner, that the same person if normal could not be attracted by the same stimuli. His attention came to be attracted by the noise of two objects of which he had been fully conscious in his past life.

If the attention of idiots can be attracted by a series of stimuli more or less strong, what will be needed for the imbecile who has, as his characteristic, not this fact, but the impossibility of fixing his attention constantly? This has been precisely the great merit of Seguin, to have sought the means of educating the imbecile, who has this characteristic, against which we really feel ourselves unarmed. He made his first hard attempts during ten years and arrived at the ultimate results after forty years of experience with imbecile children, taken in various countries, as in France, America. And after all these attempts he concluded that it is necessary in order to educate the imbecile to follow the physiological development of the individual,



so much so that we call this special education , physiological education,. Then there is an education for retardes , or imbecile or idiot children,, but it is the physiological education applied to idiot or imbecile childrenetc.. This physiological education, according to Seguin should consist in following that which shows itself or which may be supposed to be physiological development of the nervous life,, according to the studies which are made in various branches of positive science as E.G. the development of the voluntary motility of the individual , the co-ordination of the normal movements and all the sensorial exercise which proceeds the formation of ideas; and in following according to the laws which we believe we have discovered for the formation of ideas the normal physiological construction of the mind..

In fact Seguin began by educating the simple nervous movements: then he went to the education of the senses, and from that to the ideas, and to construction of the ideas, by a very slow work, which he describes

"To lead the child slowly, guiding him as though by hand from muscular education to that of the senses , from this to that of ideas, following the physiological laws of development."

And then following the path of nature itself in the formation of the interior personality, in the construction of the mind, Seguin has obtained a response on the part of the imbecile,, so that the imbecile could follow him at greater length, when he sought to obey the laws of nature in the spontaneous formation of the mind. He came to help the spontaneous development of the mind and to help the organisation which would have normal in a normal human being. Because these fascinating studies which attracted my attention when I was a physician , and which gave me the impulse to attempt also on my part, a similar experiment, which; coming many years later when further progress had been made in the sciences, lead me to educate imbecile and idiot children and to obtain really great practical results. These results were analogous to those which Seguin would have had ;, it is the same as to say , they lead me to act so that the imbecile child who formally had been lodged in a mad-house, as a being absolutely lost to society, could by special aid given according to the laws of physiological development , or lead to such a development as rendered him quite similar.

to normal children who studied in the common schools. for these imbecile children the work of the teacher was necessary, together with a didactic material which came to be made by hand and it was always necessary for the teacher, to recall the attention of the child to this material, step by step up to the point of leading him by the most distinct paths in the development of his inferior mind.

Now it is believed that the character of the attention of the normal little child from 3 to 6 years (at the earliest) be instability, a similar character to that of the intelligence of the attention of imbecile children. Really our children have been the objects of every slander, of every calumny. It is said that little children are like savages, like imbeciles; because they are as the psychologists say possessed by objects. In fact the child passes with his attention from one object to another and no one can fix it. E.g; we should attract the attention of the child by something- and in the meantime the child turns around and looks for another object; he hears a noise, another person calls him, he goes toward the noise, toward the person,- it is distracted so much so that it is said a real and proper education for little children would be absolutely impossible, because this character is precise, fixed, natural to the mind of the child;- the instability of the attention-. With this idea I too started to educate little children, before I had given myself the occasion of finding myself in front of phenomena most interesting after the studies which I had made in order that I might permit myself these new studies so as to be able to make a species of parallel between the normal and abnormal psychology, between that which would have been the education of the inferior individual and that of the superior individual not yet developed. There is in fact a parallelism a priori, if one wishes to establish it theoretically between the children who have not yet developed and the children who have not the possibility of developing themselves. Both are not developed, they still must establish language, acquire perceptions of the external world, establish ideas etc. Therefore there is a certain parallelism. In the great interest of an experiment which led to the applying of

the same method or analogous proceedings, to imbecile children, and those of a very young age, not yet developed, I adopted the same didacted methods, in the beginning, I then saw for the first time, as I have said, a little child not yet 4 years of age, who repeated the exercises of the solid insets, taking out and putting back the objects in the case more than 40 times, even in the midst of the most varied stimuli of the environment, which would have been able to distract her from that precise exercise. The phenomenon was new because it had never happened with imbecile children. These exercises it is true, could attract the children's attention to the difference of the dimensions of these cylinders: the fact that there existed a sort of problem in having to put all the cylinders back in a certain given way because if not, one would have been left out, could induce the imbecile child to persist at a certain moment, when the teacher was attracting his attention to it; but it was only a beginning of attention, soon come to an end. The phenomenon therefore that an object had acted as a stimulus which had given place to spontaneous and continual motility this phenomenon had never been witnessed.

This was the phenomenon of the possibility of auto-education. When through an external fact an activity develops itself which does not correspond in time to the action of the stimulus, but develops a continued, spontaneous action; this fact can make us hope to organize continued and spontaneous action which is auto-education. All the phenomena developed afterwards have confirmed this and have been the development of this first fact: i.e. continuing to act upon the normal child with the stimuli which should correspond to the physiological development of his psychic personality, it always happened, not only that the child responded an instant with the attention to this stimulus, but there was all the developing of a great activity. This fact may be compared to the winding of a clock. When we wind a clock the act is very brief, but the clock continues to go for 24 hours, or 48 if it is fine, or for an entire month if it is extraordinarily fine. Vice versa if we should take the hands of the clock and turn them around with the finger they would turn as long as we moved



them as when we wish to put them in place, e.g. it is 6 o'clock, the hand is at 12 we take that hand and move it to 6, it follows our fingers and stops. The phenomena which occurred with imbeciles were wholly similar to those which occur in moving the hands of the clock with the finger; but those with normal children were similar to a winding given to a mechanism which hardly needs to be touched and which moves itself for an indeterminate time, according to the individual, thus it was with the children who could repeat the exercise 40 times others 200; some continued to repeat the same exercise for 10 minutes while others have continued doing it for an hour and a half.

Now these phenomena cannot be compared with any phenomena obtained by the ordinary methods with normal children however much one wishes to construct a perfect art. However much one can impel the interest of the pupil, on to the objects which one wishes to present to him, one cannot induce the little child to repeat the same things 200 times, without his showing voluntary fatigue. Hence the origins of the phenomena are different.

There should be a correspondence between the external object and the real activities which should develop naturally in the child. In order that this phenomenon of auto-education and the continued repetition of the exercises which lead to the development of the mind may exist, there should be a physiological correspondence one might say, between the stimulus and the inner life. We cannot procure these phenomena by an artifice. We should respond to an existing activity with its special laws: and the stimuli which we should offer to the individual in the process of evolution should not be fixed in advance but established precisely by experience and should vary according to the age of the individual, because the same objects we do not have the same phenomena at all ages. You will have seen if you have had experience with these children, that there are some objects which arouse the phenomenon of auto-education in children of 4 years, but no longer arouse them in children of 6 years. There are children of 4 years who repeat an exercise so many times that they can really fix a perfect movement. On the contrary the children of 6 years can no longer do this exercise. There should be a correspondence according to the



attitudes of the various ages. This fact is not peculiar only to little children, and is new only in this application, because one knows all how it exists also in adults, as the relation with the external environment is not passive, but is, the manifestation of an activity. In fact we do not give our attention indifferently to all things, but in a particular way, to those which correspond to that which we call the individual interest, the special taste, in other words, to something which exists in us. Thus, the whole mind of the individual does not form itself upon something which it has passively encountered in life, but upon something which it has actively taken for itself. The teacher would not have the illusion of being able to fashion the individual according to his criterion, seeking to attract his attention by artifice, so that the individual might acquire the cognitions which we wish to make him acquire. The attention is an exponent of aptitudes which are in the inner life of the individual. Thus we see that our attention is not attracted indifferently by everything which is in the external environment, but according to individuals, there is a difference in the way in which the external environment can attract our attention. There are for ex. some persons, who according to their nature, have special tendencies, for ex. that of music, and they are irresistably attracted by the musical stimuli of the environment. You remember the great musician Hadyn, who, when acting as servant to the master Porpora, who did not wish to teach anyone music, stayed concealed with him, remained ecstatic every time the master played, until the master became aware that it was a case of a false servant. So it is with the men of genius, attracted by the beauty of nature and by aesthetic forms, who have become great artists. If one makes a series of persons give a description of an object, they describe it according to the impression received. Some of them have been struck by the apparel of the person, others by special perfumes, others by the words, etc.; as in the description of things there are some great authors who describe nature, struck especially by its silence; there are others struck by the colours. Then it is not that we take everything from the environment, but there is a selection in the formation

of an organism, a selection as basis of the formation itself, a choice of stimuli which are in the environment, and it is on this choice that we organise our mind. It is not the environment which forms the mind, but it is we who take from the environment for our inner life, those given things in preference to others. At the base of every <sup>con</sup>struction there is limitation and choice of material, for ex. one knows that our senses do not permit us to take all of nature, because there are so many series of colours which go beyond the possibility of our vision. They are outside the possibility of perception by the special construction of our organs, visual, auditory, etc. Thus we cannot take the whole of environment, but that which is within the limits of our senses. But it is not even all of this which can be taken for the construction of a mentality; since among all these perceptible objects which might be accessible to us, we chose furthermore; we make still another selection, which is a special psychic selection. We come to take by our attention from all this mass, that which responds to our inner nature. Thus, one has, as much in the psychogenesis (that is, in the psychic development of the individual) as in the individual psychic differentiation, (one might say in the individual psychology) always this basis of a choice in relation to the proper activities. The little child according to age, carries his attention on to determined objects, which correspond to these, his special activities. Also in the individual of complete development there are individual differences precisely according to this constitution.

Not from the outside can we form that which is the individual and create the mind, but it is the mind which forms itself according to certain determined laws of its own, taking from the environment almost a psychic nourishment with which it must construct itself according to its own laws; and it is this life which is forming itself which we can follow with education in order to help it; but we cannot create it at our good will or at our caprice.

All of life is full of these similar phenomena, that is, of a choice on the part of living beings between the substances which indifferently are all around in the environment. This fact of having to choose only certain determined substances in the environment, is explained in certain



animal beings by a word (which however has no great significance); instinct. Thus, for ex. the bees, having by nature the power which all know, go choosing in the environment certain determined things, and one could not utilise this instinct so that the bees might produce other things, and might produce other substances which might be useful to us, because they have by nature those aptitudes, and we cannot substitute for nature. There are infusoria which are attracted by the light, and the other beings who go instead where there is no light; the beings attracted by air, and the beings which are not, etc.; but one of the most convincing facts about the choice in an indifferent environment of only certain determined things, is that which we have in the diverse cells and glands of our complex organism. The blood flows in all the blood vessels, constructed in the same way, and the construction grows out of a work of selection of certain substances from others. This blood, which represents in itself a great homogeneity of compositions, in all the course of the blood, is used by the different cells; and thus the lactiferous cells select the substances which serve to make milk, the cells of the liver, only those substances which serve to make bile. There are other cells which take from the same stream of blood, these other substances which serve to form the gastric juices, and yet the stream of blood is always the same; but each one takes that which belongs to it, and all these cells, which have come from the primitive cells were alike, but each has its own work, for which it can select those given chemical substances. They operate this selection, marvellous fact, which presents itself in the cells of a superior organism as the infusoria; as in a plant which selects, for ex. certain substances, and not certain others; as in the superior animal, in man, in the psychic fact, there is always this constant law, by which in the manner of developing itself in the performance of the function there is always a selection, which is certainly not determined from the outside, but by the inner constitution, by the fact of life. And if this fact of life does not exist, the fact of life by which this activity of selection in the grasping from an indifferent environment, extremely rich, if this natural fact is not there, there is not the possibility of an organism.

tion of life, and in our case, of psychic organisation. In order that the psychic organisation may come, it is necessary - this is the phenomenon which occurs - that it may be actively possible to select, in order to take that which is necessary in these moments; and only when it is thus, does one have the superb phenomena of life. Superb is the phenomenon of the life of the bee, which makes honey and wax; superb is the phenomenon of the life of the cell, which, taking in different matters, makes the milk which nourishes. Superb is the phenomenon of the little child, who, finding the object of which he has need at that moment in order to construct the mind, gives a special manifestation, which may be extraordinary if we do not give him this chance to give his mind this element for constituting it. It is a work which is a work of construction. Then when we find ourselves in our experience in front of these little children, the phenomena which develop are not phenomena which consists in our ability to make the child understand something, but they are phenomena of spontaneous development; but that which we can do is to interpret what may be the stimulus adapted at that moment, at that age, for that individual. You will say; "How does one manage to guess all this?" This is precisely the point, to know how to find the mass of objects which could be adapted to that age, and to permit the individual to choose in order that when the individual has chosen the object which corresponds to the necessities of his interior construction, he may be established in that precise character which is constancy. And there exist many other phenomena which you can follow, not only phenomena purely and simply of the attention, which fastens upon this object. The child does a great spontaneous work, which is the constructing of his mind. When he does continued exercises, such as the solid insets, he is not doing only a series of coordinated movements. This is the age at which the child establishes localised movements, apprehends language, makes acquisition from the environment by his senses, arrests his voice, constructs his mind. Not only then, is the child making these movements, but he is observing which objects ought to compare with each other. So for ex; when he has made a mistake, he has to formulate a problem, and reason about why he has made a mistake, moreover, he has to make a decision; and here is another absolute fact of exerting the



will, to correct the exercise. He reasons about why the exercise has not succeeded, and attempts to correct himself. So for the colours. In order to put colour into gradation, the child must compare one colour with another, must reason the fact that he has to put them in gradation near to each other, and he compares these objects and makes for himself an idea of them. For ex., the idea of the identity of objects, the idea of their difference, the idea of a difference of contrast or similarity. He forms for himself all these ideas, coordinatating them with a special order which consists in differentiating objects, in finding equalities, differentiating them; because if the identity of objects is found, that is because they are differentiated from the others. When a child puts a series of colours into gradation, he has known how to select them, to see that they have diverse tones, and hence he understands the resemblance of objects, and their differing from the others. When psychologists say that objects isolate themselves because of contrast, similarities, etc., they only come to describe the ultimate phenomenon of this fact which is constructing itself in the little child. So taking all these ordered objects, the fundamental phenomenon of the attention is this persistence, this constancy of the attention itself, constancy which has with it a complex construction, because in fact, the child does all these exercises which are not exercises of the attention only. When the normal child has attained by these primitive exercises, to a certain maturity, when there comes to pass a fact which never came to pass in the imbecile child, namely that the children begin to pay intelligent attention to objects which are no longer those which we have presented to them, but which are objects of the environment, among them they can select with greater facility those which are similar to the object upon which they have exercised themselves, and have primitively constructed their first ideas. The generalisation of observation is therefore, one of the most interesting facts which are spontaneously demonstrated in our children.

And finally the second step which the child comes to accomplish while he is continuing his work of observation, also in the external environment, is that of the refining of the child's attention in observing

everything. One of the most characteristic among the anecdotes which refer to this phenomenon, is that which happened in one of the schools of St. Lorenzo, where the teacher was ruling the slate for some children to write and was making some very fine lines. A child said, "What little lines the Signora is making!" and another said child of four years said, "See, they are not little, they are fine." Another thing happened at Milan; a mother who was preparing a dish in the kitchen had a piece of butter in her hands. The child said, "It is a rectangle." The mother took off a piece of butter and the child said, "It is a triangle," the mother took off another little piece of butter and the child said, "Now it is a trapezium." There is still another anecdote about a Cardinal, who, marvelling that the children should make such progress said, "I love them very much, added, I do not want them to work, I want them to be diverted." and he gave them a present of biscuits in special forms. The children did not eat the biscuits at once, but they said, "This one is a rectangle, this one is a circle."

So the attention which develops is refined, and extends to all the movements which the children accomplish. It comes to pass in such fashion that little by little, the children come to educate their movements, so that they are capable for ex. of handling objects without dropping them on the floor, that they know how to walk lightly, etc. All that represents a refining of their attention to things of their environment and to their movements. They are extraordinary facts, because indeed they do not represent the care of a teacher towards a child. How many of these teachers would not be capable themselves of doing other than carelessly dropping an object on the floor! or they do not remember to do something recommended to them, to close a door, to save a book, to lock a drawer.

Much is said to-day about habits. I agree in the use of this word only on condition of giving it the significance of an inner activity which always stays awake, and which renews its force every time the occasion for it presents itself. It is not a habit by which the individual accomplishes almost without realising it, the same acts, following always the same routine, it is a perfected activity, always awake; vigilant, prompt,

an attention always active, ready at any moment to take its bearing upon all things. Now this is what wakens in a child, and this is a very different thing from the routine of the individual who comes to repeat an action, but without that prompt active vigilance of all the inner activities of the spirit.

There is, in short a phenomenon of growth which is a spontaneous phenomenon. Then we might say, that there is not a development of the attention only, but we are also fact to face with the exponent of a comprehensive development of the whole personality, so that we do not see in this child, only the capacity only to pay close attention, always more refined and perfect in all the movements he accomplishes, but we also see some qualities, which we might call morals of the child, for ex. this fact of the patience, of the gentleness, of the courtesy, and above all of the development of that which we call character. It is, in short, all one entity, the expression of a single life. For ex. when the child goes on working and is not startled by any stimulus whatever, for ex. by a hundred ladies who entered the environment while the children are working, and he remains at his work, it would be said that he has developed a strong character. And when this child consents to leave the work, in order to grant the request of someone who is visiting him, when we can say that this fact demonstrates his courtesy, which comes spontaneously as a phenomenon of inner life which no one has taught, or will teach. We cannot say; we must teach this child to reason, to have a character, a kind feeling, a will, etc. We assist at the development of a life and regulate the phenomena which this life manifests to us; and this life is an entity which develops, which has many particulars of manifestation, which are however, no more than details of the entity itself. To consider a life which is developing - here is the vision which we ought to have when we follow the little child for the purpose of educating him - to follow a personality that is growing.

In medicine we have the custom of following the personality in its totality. Also in psychiatry, the personality in its totality is always followed. That could be called a branch of psychology which is experimental, useful only for the observation of individuals and not of



of philosophic principles. We have nothing other than the observation of the entire personality and the study of the entire personality; there are no other forms of study in psychiatry. For ex. it would be absurd to think of being able to follow an activity as is done when we find ourselves before individuals whom we need to observe. When for ex. we come to study in clinic a neuropathic who has undergone a kind of disintegrating of his psychic personality, what do we note? For ex. we make a description of this kind - "The attention of this subject is unstable, memory is weak, this individual is beginning to have faults, ratiocinations, the will is diminished, hence there is not character." Often also, there is an anomaly in the moral sense: the moral sentiments of the individual are changed, not only this, but all the motor life is changed. For ex. the individual has observed, that for some time he has readily fallen to the ground, because he no longer had equilibrium in the ambulation: a trembling of his fingers is beginning, a disturbance of articulation; writing has some special characteristics, because of which the Dr. becomes able to draw a special help from this last phenomenon, in his diagnosis, a very valuable help. It is an individual who is becoming decomposed. This individual has, it is true, these special notes, which are also encountered in the imbeciles and idiots; but these notes, this character, exponent of a personality which is disintegrating has a physiognomy proper to itself because of which the individual who is ill must be considered in his totality, just as the individual who is developing must be followed as a personality which evolves of itself. It cannot be aided in its evolving, but that is the phenomenon to observe, just like the personality which is disintegrating.

That is, there might be this synthetic fact to consider, this function of the interior life, by which the individual must form himself, and must form himself according to his own laws, which are manifested to us in such mode as we can observe; for ex. in these little children, by a constant exercise which seems limited, and which is the complex exercise of the whole personality, because of which by this exercise which seems only of the senses in a certain moment, the inner personalities in their totalities



become formed and organised. And it is this personality which is coming into being that gives manifestations which we can observe, just as for ex. we observe the manifestations of the entity of the person who is becoming disintegrated. And in order that a personality may be able to grow strong according to the natural laws of the organisation, it is necessary that it should be free to move and to exercise itself, just as nature has granted it. This is the necessity which arises within the strong personality, and we ought not to interfere with this inner labour, otherwise than to help it by giving it the means. For ex. if we should wish to interfere to interrupt this labour, if we should wish to distract that attention which nature makes fast upon that stimulus and persist there for a purpose of constructing. If we should wish to distract it by an artifice and to draw it away from that road in order to make it follow our caprice, we should be able to do nothing other than to hinder the personality in forming itself. We should come at a certain moment to disintegrate this personality which would wish instead, to form an organism, artificially, we should be able to create only disintegrated personalities which would be anomalous.

If we do not leave the human individual free - here is the word liberty, which is in the chief sense interpreted as liberty in education - if we do not leave him free to form himself, to form the organisation of his psychic life, then we have such a confusion of ideas - from not discovering better the differentiating better characters between the man of inferior mentality and the normal man, just as from the moral point of view we do not even to-day know how to recognise the criminal from the moral; so true is this that we recognise him only after he has committed the crime. Then I was saying that we should have this so great confusion of interpretation between the characters of normal mentality and the characters of abnormal mentality. There are for ex. some individuals who can be mad for five years before others are aware of it, perhaps because we have hindered the complete normal organisation of the person, because we have such a confusion of ideas.

A parallel might be drawn between the criterion of common education on these phenomena. In the one and the other, however much under

an opposite aspect it seems a contradiction, there is a correspondence. It is as when we so often say: it seems the reverse side of the medal. For ex. a principle of common pedagogy is that the teacher ought by a special art to attract the child's attention and hold it for the time necessary in order that he may learn. We have something similar, a parallel. In fact, there must be an object which corresponds to the will of the individual in that determined moment. Then this object recalls the child's attention and holds it for the time which is sufficient for the movements of development which corresponds to that tempo of the interior life. That is we may say that it holds it for the time sufficient for attaining the purpose. Here there is not an egoistic effort of the teacher; there is a law.

They have told me that in this, my method, it is necessary to have extraordinary teachers, but it seems to me on the contrary that precisely in the other method extraordinary teachers are wanted, because an extraordinary art is wanted in order to attract attention artificially. But going on by the point of reasoning which suggests to us not to distract the attention from the way of nature, and not to carry back to these teachers extraordinary because of making them do, not what nature dictates but what the teacher wills - going on by this path, there is no need for extraordinary teachers; give the child a voice and permit him to develop by himself, to organise his inner life by himself. There is a correspondence of principles, to attract the attention, and to hold it for that time which is sufficient.

Another principle of the common schools is this - in order that the child's attention may be held upon things a certain interest needs to be excited in the child - of course we do not speak any more of the times when they needed to force it by violence. There is need therefore, to develop an interest of the child's, to do so, by giving to new objects the very modes of the old, to go on from the known to the unknown, to arrive at the new from the old already existing. In this other fact of the child's development, he comes by degrees to acquire things, uniting the new to that

which is old in him. So when he sees some new colours he adds them to those old ones which he has already put within himself, etc. There is a correspondence between new coordinated movements and the form of the old ones; as the adult man takes new steps upon a preparation of old steps, which are the toddling steps of the child, as the new language forms itself upon the stammered language, so I repeat the child proceeds from the known to the unknown. When for ex. we wish to follow the child in these diverse stages we do not say only, "he proceeds uniting the new to the old," but, "He is really a being which developing naturally proceeds from the simple to the complicated, following that route which the cell has followed in order to become the entire organism, and it proceeds there by itself because it is an organism which is developing."

Now it is evident that teachers have had to understand that in order to make a new object enter they needed to unite it to an old one. Indeed it is the manner of progressing of the being which is developing that leads to this necessity. But when for ex. in the old manner of educating, it is said; "In order to keep the child's attention lively, there is need often to resort to occupations, then we find, we begin to feel that there is something which disintegrates, but the parallelism no longer exists because this does not correspond in any way with our field. We are outside of life, thinking so, and it is for that very reason that something vital has to be diminished. This is so true that it is necessary to change the occupations continually in order to recall the individual's attention. On the contrary, that which presents itself to us in following the development of life is the opposite. The individual always persists in his work, in order to form himself, in order to construct himself; it is almost that the life clings to the ladder which helps it to ascend, and the ascending is all the work of the inner life; the external thing is only the ladder. In that, there is not the detail only but all the developing of the inner life, but also the experience tell us that individuals ought to remain a long time at the same exercise in order that this may take place. The duration of the exercise varies with the varying of the individualities, as there is one who can stay a quarter of



an hour, one a half hour, one an hour, one an hour and a half without tiring. In fact, we see some children who remain a half hour, an hour an hour and a half, do accomplish a determined work, and seem quite excited because they wish to make that ascent in order to attain the heights they have never reached, because in them they feel the repose to which they aspire. There will come this kind of beatitude, of contentment, which is the ultimate repose of a being who would not have been wearied; while we find in the old method that the individual in order not to become wearied must be always changing, notwithstanding that he becomes wearied just the same. This is so true that in making some researches about weariness in school children it is found that children are tired, worn out, at the end of the year. On the other hand, our children are not worn out at the end of the year, they have the same phenomenon of force as at the beginning. So there are some positive facts which, apply to these conditions applied there, demonstrate enervation, and, applied here, demonstrate that the child is not fatigued and has worked far more than there. While the old school sought to shorten its hours we ought to preach longer hours to the school in order to make the children rest completely. Moreover, we are already beginning certain interesting researches, and in regard to this which demonstrates that continued work leaves much less trace than interrupted work. There is then, not only no longer an agreement, but here there is no parallelism whatever. In the old school it is said that the environment ought not to produce distractions, all the pupils ought to be as in an artificial enclosure, hence there ought not to exist in the environment facts which may be disturbing, sensorial stimuli, for ex. pictures, in such fashion that the school, for the most part was at least up to yesterday, bare like a prison, in order that the children might be able to concentrate their whole attention upon the teachers. Just as theatres are made dark in order that people may be exclusively attentive to the stage. On the other hand, we know how our children are not only surrounded by pictures, plants, etc. but we even see that a hundred people invade the rooms who may succeed in distracting them. Therefore we find ourselves facing completely diverse phenomena.



We might say that on the one hand, there are phenomena of an artifice; on the other, they are natural phenomena. In the common school these can be obtained only the special precise aim which we previously fix and nothing else is developed by that artifice put there, just in order to touch the predetermined goal. So, if we wish to teach a determined thing, we teach what the pupil's effort is and it suffices. They present instead, so many problems to education; "What shall we do to develop these separate different things, how ought we to develop them;" so there come all the different problems, and for everything we shall need to find the means to bring out that effect by artifice in order to solve everyone of these problems; because of course, when we intend to develop one thing only, nothing else becomes developed. When we take only one part of life by artifice, we can take only that part and nothing else. But when life develops itself naturally, in its completeness, then we see that all these parts are manifested themselves; the whole personality develops comprehensively, and then we see moral character, we see special qualities, which have nothing to do with the direct action we have exercised because it is the whole life which is developing in all its parts.

Now there is also a kind of parallelism in the finalities of education, the finalities which education proposes for itself, between these finalities and the facts which we witness. For ex. one of the predetermined aims of educators would be that the children should learn to work willingly, to be constant in their actions, to develop virtuous sentiments. The child ought to love school; he ought to become a person of strong character, he ought to have the seriousness of one who works willingly, he ought to have the initiative to know how to do many things for himself. Indeed, they say, "Men must work in the world". All these would be finalities which the school proposes for itself, but without attaining them. On the contrary, the great lament of all those directing this school to-day is that the children are not united, they do not love the school, they do not love the teacher, etc. But all these which are the finalities of an ideality, come spontaneously by the method which leads to the natural development of the whole per-

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sonality; in fact, we see that all these children of course are constant they work willingly, they are affectionate towards their teachers and their companions, and they develop many kind sentiments, and have much initiative. They lack timidity without having to be urged by anyone. Hence they progress to doing new things, they work without any special effort but as a spontaneous phenomenon. But it is not this only, because all at once crises come, extraordinary phenomena which have to do only with the unfolding of a life which lives of itself. There are some facts which are like crises of the soul, sudden moving transformations by which an individual turns around, changes himself; he who did not work, works; he who had a fault loses it and enters into a life more serene, greater and more joyous. These facts are like crises of life which come when life is developing; just as also we have certain phenomena of attention which in the life of adults are encountered only in men of genius and not in common men. So for ex. there is recorded the fact of the poet who was writing, and a wedding procession passed with great tumult without his being aware of it, even more, when the house was on fire and everyone saving himself, the genius, not aware of the flames, remains to die, and does die if he is not saved by a miracle. Therefore these are grandiose phenomena which are encountered in certain children when they are hurried in the work which corresponds to their inner activity, in such a manner that we are not following a slow uniform increasing, but we are assisting in that fatal crisis which we see in a very complex life. It is as when there are the crises of puberty, because of which there comes to pass a great transformation of the personality.

Now if this is a great question, not only pedagogic but human, what presents itself to us, is not the pedagogic problem of teaching, given things to the children, so much as a question of life, a question perhaps much more serious, than that presented when the problems of physical life have been put before our eyes in order that they might be solved by science and in order that mortality might be combatted, and the physical life of individuals be re-animated. Here there is something more, because it is a question not only of the body, but of the purpose

of this body which if it were paralytic would not have any value. When we say that the problem of the psychic life of man, presents itself as the essential fact of development, then it is no longer a question of a method of pedagogy which presents itself to us and which we have to consider, but first of all it is the problem of human life. We must consider the psychic life as a life which unfolds, and which we can aid in its unfolding. Perhaps some studies are beginning, analogous to those which there have been when the problems of the life of the body have been imposed upon all public opinion, not left only to science. We have begun to make statistics of mortality, in order to come to the laws of the hygiene of the body, but there are other statistics which to-day are considered completely without direct action upon man. For ex. the statistics upon madness, upon suicides, especially upon those of pupils. Above all, we ought to look at those phenomena which give evidence of a lacking organisation of the personality, for ex? an excessive timidity because of which the individual lacks initiative and therefore becomes the victim of others.

It will be said, "You would wish that nature should be followed, whereas the adult man will wish to do many things which are not however those to which he is led by his psychic nature, and then what will he do?" The reply is, "If man must make an effort to perform labours not right for him when he is an adult, he needs to be very strong, and if this is necessary we ought to guard ourselves from doing anything that may hinder the organisation of the personality, because a disintegrated person will never be able to do that." A person of little character enervated, will never be able to have around him people who are confronting struggle and labour, because this is not his natural tendency. Therefore so much the more is imposed the duty of making men strong, because here we are treating of a period of development in which the individual must be made strong in order to sustain the shocks of life. Therefore this is the necessary thing, viz. to make men strong, not that they may be adapted for sacrifice, but that they may be able to conquer in the struggle of life.



## Lecture 8

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Lesson of May 14, 1914

### Imagination

One of the criticisms most often repeated among those made against this method is that the education is forgotten of the child's imagination. For this reason I consider the subject worthy of a long discussion. All recognize that the imagination, would be an activity of supreme importance, since it is the imagination that gives its greatness to the intelligence of man. In fact all that which man creates with his intelligence is not merely the fruit of what he has taken from the environment, is not the sterile reproduction of what man takes as nourishment by means of the senses; but the greatness of the genius is the creative work done by his intelligence and all the productions of man come from this creative work. Hence it ~~has~~ said with justice: "You forget the principle part, for example, you give a great deal to the education of the senses and nothing to the imagination. But what will the man become who only takes with the senses and is then abandoned almost entirely as regards the faculty which is the highest possessed by man, especially as children have a special tendency to imagination as a characteristic of infant mentality?"

And the imagination of the child is one of its characteristics so pronounced that some give maximum importance to this cultivation of the infantile imagination.

We will not deal completely with this theme, which is too ~~wide~~ but try to come to an understanding upon some principle points. In the meantime let us set aside whether faculties exist, special faculties to be analysed and parts to develop singly, almost anatomically, of the intelligence which subject I have several times touched upon. Leaving all



the digressions on one side and coming to the facts, and the facts most generally recognized especially in recent times, it is seen that the imagination always takes sensations as its point of departure or food. It has been said since ancient times "Nihil est in intellectu quod prius non fuerit in sensu".

And this saying has come into vogue to-day not so much owing to the work of the sensationists, philosophers, as to that of the positivist. There is for example in the Roman University, in the great halls of physiology which have recently been built this motto: as if to indicate the modern train of thought, "Nothing can be constructed, with the intelligence if the senses have not first taken from the environment."

So we have to consider a first stage in the formation of the mind which is one might say, the sensorial stage, through which one has to pass to reach the imaginative stage; that is to say there must first be a kind of taking of material. Some say that the taking of the sensory material is like the marble used by the artist to carve a statue. Other say, the sensory material is like the first food that must then be assimilated and transformed into living substances. There are many similes therefore that signify that it is necessary to begin by taking with the senses. In fact if we observe the greatest fruits or also the most modest of the human imagination, we always find this part based on sensations; that is to say, we cannot imagine the absolutely new, but imagine the new from the things we have actually taken. All creation, to be a noble creation, must depart as its first material from a reality taken from the environment. This which was formerly considered as one of the faculties of the spirit, has been studied in modern times by the psychologists as one of the psychic activities of man, and as an activity which has various forms, different types, according to the individuals. That is to say, not all men imagine in the same way, but some imagine with one of the senses rather than another. Thus it is observed that some people imagine, always in images pictured from auditory impressions. Others instead imagine in images figured from visual impressions, there lastly have a kind of imaginative construction upon the motor sensations.

form any idea or only vague ideas upon the sensations which they have never been able to feel. For example, those born blind, imagine colors as some delicious sense that they smell. Vice-versa the dumb from descriptions of beautiful music imagine this as certain colors. It is only the blind and dumb who have become blind and dumb after a certain time from their birth who can form an image relating to the lost sense. This however is the work of the intelligence upon sensations already received in real contact with the environment. For the rest, when we say that some persons have a great imagination, and admire the marvellous development of the imagination, for example, in some person of genius, we never admire in them other than something created from real facts; otherwise a work of fancy that has no correspondence with reality we consider as something mad, absurd, inferior; we do not take it into consideration, it does not exist. We say instead, for example, that a poet has an imaginative mind, when he enriches his argument with continual images that call up thoughts related to it. A thought of the mind is compared with something that really exists and can be experienced with the senses.

And so we say that the poet has an imaginative speech, and it is by this comparison with real things that the poet makes himself clear to him who listens to his thought, by which this clearness due to a fact of a reality continually interspersed with the poetry, makes the reading pleasant, and we feel that this pleasure comes to us from being able to follow the play of this imagination greater than ours, which helps our scant imagination with these real facts, which are like a ladder by which to mount to the imaginative conceptions. Thus for example, one of Dante's qualities is that of continually intermingling his discourse with images, in one of the most imaginative poems that exist. In fact Dante describes the life beyond death, the Inferno, Paradise Purgatory, and all this description of the beyond is based upon sensory images. Not only this, but to lead up to his elevated spiritual discourses, the poet always comes back to simple images and this helps the difficult reading of the Divine Comedy.

For example,

Thus in taking sensations from the environment and figuring a scene,, some figure it with form and colors, others all in sounds, other imagining movement. This would be in relation with what we have said about attention. There are characteristic individual activities, not identical in all men; by which activities some are led by preference to some stimuli, others to others; and according to the activity of each there is not only the special taking from the environment, but also the construction that is done upon that which is taken; and this would be a further demonstration of the importance of individuality in every psychological fact.

It is impossible to imagine something completely outside the senses that we have. When we wish to imagine things which do not exist we nevertheless always imagine them on these sensory bases. The things, for example, that we have imagined as farthest from us, for instance God, always have a basis of reality in the imagination.

Although persons have described God, as without body etc. nevertheless wishing to imagine him they pictured an old man. Wishing to imagine Paradise or the Inferno, that is, something completely outside our senses, in the time in which we should no longer have senses, we nevertheless picture them as something sensory. <sup>although</sup> And we say that there are figures and manners of speaking which are not true it is nevertheless for us as though Hell contained fire, so much hotter than that which exists, that the latter with respect to it would be like the fire painted in a picture since we are unable to imagine other than this and cannot describe things other than we have seen.

There are extremely spiritual persons <sup>who</sup> have really had internal sensations that are not due to the senses; and in their exceptional cases these persons have been unable to describe these impressions to other men except by the use of sensory images; saying that the words they had to use to express this occult sensation, did not correspond to reality. They did not know how to express it, since not only words were lacking, but also images, precisely because we must and can only create images from that which we take from the environment.

Now we know that for example, those born deaf and blind, cannot.



form any idea or only vague ideas upon the sensations which they have never been able to feel. For example, those born blind, imagine colors as some delicious sense that they smell. Vice-versa the dumb from descriptions of beautiful music imagine this as certain colors. It is only the blind and dumb who have become blind and dumb after a certain time from their birth who can form an image relating to the lost sense. This however is the work of the intelligence upon sensations already received in real contact with the environment. For the rest, when we say that some persons have a great imagination, and admire the marvellous development of the imagination, for example, in some person of genius, we never admire in them other than something created from real facts; otherwise a work of fancy that has no correspondence with reality we consider as something mad, absurd, inferior; we do not take it into consideration, it does not exist. We say instead, for example, that a poet has an imaginative mind, when he enriches his argument with continual images that call up thoughts related to it. A thought of the mind is compared with something that really exists and can be experienced with the senses.

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For example,

As turtle doves, called onward by desire,  
With open and steady wings to the sweet nest  
Fly through the air by their volition borne,  
So came they from the band where Dido is,

Dante.. Inf.. 5

(Longfellow's translation))

Hitherto we have the image: to be able to associate this idea which is the fruit of the imagination ((the sails that come out towards him and fly)) with the doves that fly and all see?? So we say that the poet is imaginative. His imaging is great, but in this case, not only the image, that he creates but the association ~~that he~~ with reality.. For example

As sheep come issuing forth from out the fold  
By ones and twos and threes,, and the others stand  
Timidly holding down their eyes and nostrils,  
And what the foremost does the others do,,  
Huddling themselves against her if she stop,  
Simple and quiet and wherefore know not;  
So moving to approach us thereupon  
I saw the leader of that fortunate flock..

Dante Purg. 33

Longfellow's Trans.

He who reads the Divine Comedy knows that this occurs in every verse, and the great poets do so and also the orators, and all those that give a great imaginative construction to others,, not only give this construction of images upon sensory facts, but help the others to follow them, as though making a stair upon which the others can rest their feet and follow this elevated thought, rest their feet upon memories, association with the simplest and most real facts,, sensorially the most tangible which are accessible to all in the environment, and the more precise and exact is the comparison,, and the more it is made with something accessible to all,, and the more we admire and feel the greatness of the mind which imagines and helps the others to follow in its imagination.

That observation which Dante makes upon the flight of the doves

upon the way in which the sheep leave the fold and behave with one another are fine observations of reality, and it is this fine observation of facts that makes the imaginative comparison so fascinating to us.

So one might say that the person of great imagination must also have a great power of observation, and that his imaginative work is much greater, the greater the power of observation of the person of genius. The more the conception is exactly related to the reality of observed things, the more admirable it is as work of art. And this is not only true of art, but of all things.

One might say that in the compliments which we pay people to make ourselves agreeable, like superior people who know how to pay an exquisite compliment, we must really be able to compare the qualities which adorn the person with the things with which we wish to compare them. The admiring picture that we wish to make this person, is a work of the imagination. We do not only wish to look at them and observe them with the senses, but also wish to praise them with our imagination, associating the ideas with which they inspire us with their real characteristics. And the more our compliments is adapted to the qualities of the person, the more they feel the flattery of it and will admire the grace and fineness of the one who has praised them. If instead we make a disproportionate comparison, then we say: "What a gross individual!" This does not flatter us in the least the exaggerated compliment destroys all our liking for the person who makes it. To pay an imaginative compliment, we must not only know how to observe and value and the thing which touches us most is to see that our qualities have been seen and appraised at their true value but to feel that this has inspired something that really corresponds in every way in the image to our real qualities.

Hence in all this, the basis of observation of the truth and the imaginative construction within certain limits that might be called the form of the imagination; all this is what characterises the high qualities of the imagination.

Thus it is true that art does not reproduce nature just as it is like a photograph, but has to contain an inspiration. Nevertheless it has to have reality, truth, as a basis; otherwise we say that art is in a



period of degeneration, when it is the pure fancy of the artist that leads him to disfigure real forms in a fantastic way.

Thus we much admire Greek art, which was not the actual representation of people, since it is certain that in time of Greece however marvellously physical education was organised, it was not possible for them to have had that perfection of beauty which we admire in the statues.

Hence there is absolutely no possibility that this should represent nature as it was; it certainly represented a copy of the mental image of the artist, but this was created from reality, as a perfection of an inspired work. In fact, the Greek sculptors were so well able to model the perfect form of man, because they had the opportunity of widely observing human forms, since people were slightly clad. In our own times, instead, they can only observe the models, that are too few to be able to furnish an education of the eye to the human form, and hence to enable the artist under the impulse of an inspiration to synthesise all the beauties observed. It is therefore the basis of observation which has been able to create the immortal works of art, which are still these unattainable models.

So not to spend more time on this we might conclude, that if the faculty of imagining is a high faculty of man, (and it is certainly a high faculty among the greater part of mankind) it must have a basis and experience of observation and the accumulation of observations; and the imagination is the greater, the greater has been the preparation of observation although there are individual differences in the capacity of imaginative creation.

This is certain, that if it is necessary to have a basis of real observation to construct mental images, the construction of these is possible to all, but with individual differences that are almost immeasurable between the genius and the common man. If however, there is this basis, it is necessary to say that the little children who are still in the period of taking from the environment more, are in a period of inexact chaotic gathering, so that they have need of being helped in the gathering itself of the sensations to order the sensations in the mind, in these

individuals so unsteady and uncertain in the first steps of the inner life which has to follow such a long road, in these individuals imagination at this moment cannot have a very great importance, whereas the gathering of things wherewith the man will be able to imagine must have the greatest importance.

They say: "But this which you have tried to describe is the imagination of the man, whereas we wish to educate the imagination of the child which has special characteristics."

Let us contemplate a little this imagination of the child, although we may certainly say at once that our ideal will be that the child should acquire the imagination of the man. What is this that we call the imagination of the child? We call many different things the imagination of the child; but above all this. For example, the child tends to see in the objects things that really do not exist in the objects, but other things that exceed these limits. Hence they create about those objects with their imagination. Or else we say that the children have much imagination because they readily believe the fantastic stories which we tell them. There are also forms of education which cultivate these things, for instance, that the child sees in an object that he has under his eyes, something that is not in the object. This happens continually. For example, a child who has a stick and mounts on it like a horse, runs about the house and imagines he is a horseman; and so amuses himself. We say: "What imagination that child has! In that stick he sees a horse."

Often also in the education itself that we give to little children in school, we try to cultivate this form of imagination. For example, we give Froebelian bricks and say to the child: "This brick is a horse." Then we put the bricks in a certain position and say: "This is a stall," and so on making a tower, a chair, etc. and that which pleases us is that we believe the development of the child to be better, the more, seeing this object, he can imagine other things that are not the object, and really have nothing to do with it.

Certainly children imagine in this way very easily. There was for example, a very poor mother who was unhappy not to be able to give her little child anything but bread. But to console him, she divided the bread into two pieces and said: "This is the bread and this the meat."

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Then the child was happy and took a little piece of bread from one piece, and a little piece of meat from the other and enjoyed it more. Thus the trick is also well known of helping the child to walk for the first time attaching his hands to his pinafore, since the child, holding his own pinafore, thinks he is holding onto something, and in this belief moves the first steps.

Similar forms of imagination are not entirely unknown to adults. There are grown-ups who easily imagine just as the child does in this way. For example, men who are very poor and hungry, easily imagine abundant banquets, and hungry men have eaten their bread near restaurants, whence came the smell of food, so as to imagine they were at a banquet, and this consoled them.

In general, all those who are absolutely deprived of something, and have vital desires, imagine the thing of which they are deprived. So there exists in the adult a similar form of imagination. It exists in those individuals who are extremely poor in something and being unable to satisfy it with reality, do so with their imagination. That the child satisfies himself with imagination because he is poor and we are not aware of it is a fact which concerns the child, and is an activity favourable to the child, but it is not said that for this reason the child must develop himself and that we must help the development of his inner life, basing our action on this providential faculty of his.

For instance, we cannot say of the man who eats his bread smelling the odours from the restaurant: "What a splendid faculty this man has in his imagination, how providential it is and we must develop it. He contents himself with bread and the smell of food and imagines he is at a great banquet. How fortunate! Let us try and develop this in everyone till all can remain hungry and contented!" We shall not certainly say that the little child who rides upon a stick is a superior being to one who has a real little horse on which to learn to ride. You will say that all children cannot have a horse, but we cannot say that the child of the stick is superior for the fact that he imagines himself to be riding, and that this fact makes him in reality superior to the other, so that to render the rich child superior it would be necessary to take away the live



horse and give him a stick.

It is not only normal men who have an imagination similar to these children. There are other categories of men who have this imagination definitely developed. For example, they no longer merely delude themselves thus with an imaginary idea but have ended by really believing that a table is their royal throne, and that a column is a son that is dead. These are the illusions of the insane. The insane have this kind of mentality, parallel to the imagination of men who are sane. The imagination of the insane is characterised by the fact that of not being based upon the real impressions of things, but upon images established as reality in their minds, that is, their deliriums are constructed upon these mental images which are fixed like reality. And here we see that the individual who really believes that that table is his throne, makes a whole circle of reasoning upon it, which is the content of the delirious mind. The basis of it is this reality in the mind of the mad man, that is to say, confusion between one thing and another, being incapable of any longer grasping the reality of the world, and substituting these illusions for reality.

We also admire in the children other forms of imagination and say that the children are very imaginative because they imagine that Christmas (in Germany) is an old man with a white beard full of snow, who brings presents for the Christmas tree; in Italy the children think that Christmas is an ugly and lurid old woman called the Befana, but who is nevertheless very benevolent and brings toys to the children. We say that this is the imagination of the children. But if this were a natural imagination of the children, the children of the whole world would imagine Christmas in the same way. It is we instead who make this imagination and give it to the children it is our imagination, not that of the children. They believe what we say, believe it because their mind is immature. Immaturity is a characteristic of the infant mind, by which they have not yet gained security in their perception of reality. They have not yet developed their reasoning powers sufficiently to be logically, and to make a criticism of what we say. Besides this they are so ignorant of the world that they can believe one thing as easily as another. These consequences

of immaturity of the mind and ignorance are not imagination. We amuse ourselves with the children imagining absurd things and seeing that they believe us just as we used to amuse ourselves with the children jumping them up and down when they were small, because it pleased us to see them laugh or fly up and down; and the intervention of hygiene has been necessary since this was fatally dangerous to the life of the child, especially to its cerebral development.. But from the little body thrown up and down, to the child's spirit, he has always been a little our toy, and amused us.

To take his weakness, his immaturity, his ignorance, his incapacity, the expression of his desires, he being poor since we have done nothing for him, we have not given him that which was necessary for his life, to profit by this and say that with it we develop the greatest faculty of man, imagination, I believe to be a complete mistake. If we think to be able to give the child help in the development of his imagination we must certainly, first, as a duty of conscience and honesty, have destroyed the possibility that all these things can intervene in the manifestations of the imagination. We must first have absolutely have put out of court the possibility of these apparent imaginations being the result of poverty of the mind not yet constructed and its disorder, since confronted by this our duty is to help this mind to construct itself and order itself.. We must exclude the possibility of its being due to ignorance, and confronted by ignorance our duty is to teach. Exclude its due to poverty of means since faced by this we must simply enrich the child's life with all the means possible, until his needs are interpreted and satisfied to the fullest extent.. Excluded all this then only can we contemplate the imagination of the child..

Children at first so rich in imagination little by little forget this chaotic confused form of imagining and begin to gather with great ardour from external reality.

It would be a most interesting study for all of us, to see how the imagination of the child behaves more especially while, little by little, the life of the child is enriched by our help. If we recognise high social rights in the child, the right to have all the means of his existence, and give the child the right to live; if with the giving of

this we find that what we thought was imagination diminishes, we ought not to fear that we have destroyed the greatness of man: since when the child has been lead to gather reality, he, when he is ready to imagine, will imagine.. But in order that he should imagine we must leave him completely free to develop his inner activity. This is what we must do; act so that he collects, since it is from what he takes that his imagination develops..

First of all the imagination is our individual activity,, but at bottom the content of imagination develops from reality. Let us help the child to take from reality; and wait,, leaving him free,, because if we do not leave him free in all the living things which are in course of development, we can hinder the child from developing his imagination;; as any of us have lost the faculty of imagining in a subject which has been studied too much.. We say:"I have learned this too well,so that my mind has become too fixed, and I cannot imagine another." It is very difficult to reject something and hope for the construction of something else from the mind which is too much artificially fixed by the work of others.. We therefore speak of freshness of the mind in those people who still have the faculty of being able really to imagine and construct,, since they are not oppressed by any yoke. For the yoke which oppresses and causes the mind to study things imposed by others without rest,, enchains the imagination. It is not for the intelligence possible to develop if someone keeps it in chains.. We must give the material and the liberty to construct and have the patience to await this construction.. I believe that in this lies the great emancipation of the child,, In fact,, our children so, however little has yet been done for them represent a very different type from that common to other children. These children inspire in us admiration and high feelings,, we almost contemplate them as having great virtues which we have lost,, germinal capacities which have been extinguished in us.. We therefore feel moved by the sight of this infancy which almost promises a better humanity than our own, since it seems to us that this humanity ought not to lose what we have lost, and near to these children we do not feel what common people feel near to common people,, who say to one another"I am not a child" as though defending themselves against an accusation,, and as if to say:"I am not a person to be



treated with impunity, I am not a fool."

When the mother sees that her child no longer believes what she has told him she is glad and says: "My child no longer believes" and is happy because this child has had to make this effort to overcome the false belief that his mother had given him. If the mother rejoices that her child has overcome it, why should we wish to play with a mind in course of formation, and then rejoice when this great mind the mind of man which overcomes all obstacles, shows us; that it has also overcome the obstacle which the mother has placed to the development of the child's mind?? In fact, when we say to the child: Christmas is like this, the Befana, is like this, and this piece of wood is a horse, we should be truly in despair, if we thought that our child would grow actually believing that the piece of wood was a horse, and that Christmas was a woman. While we try to inculcate this belief, we have a single hope: that the child by his own force will overcome this great peril, this barrier that we wish to place across his path. The lot of the children is that of almost all beings who have some weaker side and live among persons stronger than themselves. It has been a little the lot of woman and it is undoubtedly the destiny of the child. The child is oppressed, makes diversion and amusement in his weakness and after all that is calumniated. In fact we say that the child is impatient etc., that the child is like a little animal. The thing which seems countenanced by science and which it delights to repeat continually is that the child represents the state of the savage, almost with an idea of evolution that renders this conception great, and that man must pass through the stages of humanity to be first a savage and then little by little a civilized man.

We say a thing worthy of notice saying that the child must pass through the savage state, and come to the state of civilized man; and if we say this we must at least have this as an educational concept; helping the child to pass through that savage state and arrive as soon as possible at the stage of the adult.

It would certainly not occur to us to educate the child so as to help him become as large as possible in the savage state, or that these things which seem to recall in him the savage people, and can be increased and developed; but we should say that the work of education wished

to help the child to surpass that state, given that he passes through this stage.

There are infant characteristics that must be surpassed and have some similitude to characteristics of savage men:: for example, language. Savage peoples have truncated words, kinds of syllables, and the child begins by pronouncing syllables. Then, when language is established, this language is same inferior people have many generic words which serve to indicate many things. They have a very small vocabulary in comparison with ours.. It is natural that the child who begins to develop is first poor and then rich, resembles first that kind of mammal which is toothless,, then becomes little by little like the carnivorous animals etc.,. It is the way of growing which, is first nonexistent and must begin from little to develop.

We ought certainly to try to help the child to surmount this state. Hence he must be helped to acquire the language of the adult, as he must be helped to passed through that stage in which his mind is not yet constructed. It is certain that savages with respect to us, have something which resembles the psychology of children and infant psychology has some resemblance to them, since they are more ignorant than we,, are in short poorer. SO children are not savages, they are poorer than we, because they are yet enriched.. Savages remain permanently in that state of poverty. All the anti-civil population before having arrived at a certain period of more advanced civilization, have been in a period of inferior civilization, where they had forms of ideas due to their state, less advanced than ours. Thus the Greeks believed <sup>is</sup> that in the Straits of Gibraltar there were the Columns of Hercules. This an imagination that has a basis in a form of ignorance. And similarly many things are constructed on the imagination of children.

Thus Christopher Columbus soved himself among the American natives because he foresaw that the sun would be obscured he already knew that there would be an eclipse. They were ignorant with respect to Christopher Columbus. Thus in the case of almost all these forms of imagination of primitive peoples that are due to the forms of ignorance or poverty or instability of the mind. Thus there are inferior people

who easily imagines supernatural fables, the unreal, and this fascinates them. The Tales of the Thousand and One Knights came from Oriental People less evolved than ourselves. All that which is fantastic and fascinating for some people in their imagination is characterized by an unreal basis. But our imagination at our level of civilization does not vent itself in fantasy and fables, but creates from the truth. Thus on one hand one may say that what fascinates some mentalities is the supernatural and the unreal. But what is pleasing to the mentality of the most civilized people are the great works of art, the dynamic constructions and these are the things that we must seek, which represent the environment in which the true intelligence of man ought to find its application. We must help the children to pass through these nebulous uncertain periods of the mind in which fantasy is easy for him, since he does not have to become a savage nor a man inferior to us, but must become a man possibly superior to us, and the least that we can give him must be the maximum at our disposition. If our civilization is based upon reality, we must at least give him these foundations because the child is the man who must carry on our civilization. It is interesting to think a moment not of the primitive people whom the child ought to resemble according to a conception of evolution, but of the state of civilization that immediately precedes our own, and which was our own before men became observers, positivists, and had constructed practical works from their real observations of the environment. This would be interesting but naturally I cannot enlarge upon it here. Suffice it to point at certain facts that are well known: the slow advance of progress in the epochs in which imagination was of a lower form. It was a human activity which evolved without sufficient basis of truth, it created without creating from reality; but it created something which became established and determines the rate of civil progress; for example, the epochs relatively near in which chemistry was concerned with the philosopher's stone, and thence passed to the making of gold by alchemy the epoch in which in physics the problems of perpetual motion occupied attention and in medicine many prejudices held the field which were fruits of the imagination. All know that at



these times progress did not advance. One might say that in these epochs man left the taste of progress to the imagination, without imagination having that pedestal of truth upon which alone the imagination can construct something great that helps life. And so for centuries, men lost time over a fantastic idea.

But what is it that sets progress in motion? An observation of reality. For example, Lavoisier discovered that burnt bodies increased in weight, while they ought to have diminished since they appeared to have lost substance; and from this he discovered oxygen. He discovered it by the most simple observation, that bodies increase in weight when burnt. This fact, given like nourishment to the great imaginative faculties of man, has resulted in this first discovery bringing all the other enormous discoveries of chemistry. For man has this great power of the imagination, by which he can indefinitely construct on bases of truth; he passes from reality to reality and upon every reality constructs. Thus while everyone lost time in perpetual motion and all that power of the imagination given by mathematics—which might be called one of the master pieces of the imagination, was wasted over the problem of perpetual motion; so that all the discoveries of physics were impossible,—there came the discovery that steam has power, and this was enough for all this power of the imagination set upon this real fact to cause it to grow into the great progress which marks our civilization.

In medicine things were said which were absurd and upon which man slept happy in the imagination of the strangest things. For example that a toad laid upon the skin could heal such and such an illness, the dust of a deer's horn another, and there were many errors which to-day make us smile, but which were so fixed in the men's minds that when the circulation of the blood was discovered this discovery seemed incredible, and the faculty of medicine solemnly denied the discovery.

It is amusing to read what one of the great fathers of medicine at that time wrote with regard to some doctors who followed his ideas. He said: "That which I like about my sons is that they remain blindly faithful to the opinions of our ancient teachers and have never wished to understand nor listen to the reasoning and experiments of the preten-

tious discoveries of our century as regards the circulation of the blood and other opinions of the same sort that all must reject."

The way of truth is difficult through the crust of the imagination which is fixed without being first constructed upon the basis of truth, but since truth is a great basis of this faculty of man, it has progressed triumphantly, and from the discovery of the circulation of the blood has come all that immense science which is in great part construction of the imagination, as is all the positive science of our days. Progress however is this, that the great forces of the imagination instead of having little or nothing as their base, begin to have great stones upon which to construct a temple and on which to rule like a divine force without the coming of superstitious clouds. This is the hindrance to progress, that which is the greatest human creative faculty, the human faculty par excellence, if it be without basis. Therefore we must have a kind of faith until the facts show us that it is so. Since if we desire to educate the child's imagination, we must undoubtedly act upon the child but not in the sense that he can almost extract a kind of faculty which is that of the imagination and develop it by itself, since we run the risk (to-day fortunately we can no longer run it because souls are not in our hands, and in this environment we could no longer set men back into the obscurity of 200 years ago; fortunately we are not the arbiters of life, but we can at the most do ourselves the honour of serving, being helpers, and therefore there is not this great danger), if we should think to be able to extract like a tooth from its gum, this imagination of the child, to develop it by itself we should commit a grave mistake, for the greatness of the imagination is a created thing that man has as his characteristic as he has beauty and his external form; but this thing, in order to be really great and serve its purpose, must be based as much as possible upon reality, and so we lead the children to take reality and be able to order this reality, so that they can construct their mind. And since imagination is the characteristic of the mind of man, he will certainly have imagination, this will have to be the way to develop the imagination of children. There may be contrary opinions, but it does not matter, since it is the facts which will

have to decide. For the rest, there are facts which to-day can certainly give us assurance of this, for example, the way we have of developing the imagination of the children in the elementary schools. We wish the children of the elementary schools to do compositions and give them themes to write upon. What do these children do? They read, and the teacher says, ready, read, to be able to compose. What do the children do when they read? Take the imagination of others as far as possible, make a kind of reserve of it as certain insects lay in a store of food in their holes in the ground and little by little eat what they have set apart; so the children take out what they can from the imagination of others, and so succeed in doing the compositions which perhaps really they would not be able to do, or could do but not in that way. For I believe that they could do these imaginative works, but if they did them, what would be the attitudes of these children? Evidently it would be the attitude of persons who walk up and down meditating, or of persons who observe seeking to gather something; that is it would be that of persons who have to take to create from that which they see or take from that which they have within them, as men do who create something. These put themselves in a state of meditation, or else feel the inspiration of a moment in which they can observe something that inspires them and they create. And if the adult can only create theirs, why should the child create in a different way? When he creates the child must also create in this way. We cannot demand of the child to create. And if we cannot agree that we could take an adult put him in prison and say: "Now, at this moment create, because it pleases me." Now can we delude ourselves that the child can do so? Evidently the child does not create, he draws out what the teacher has said, whatever is in the sack, that which he has taken from others. The great effort of the artist who creates is to take out from within himself, to reproduce from within himself, the image which is formed there. He certainly does not create going to see what other artists have done. One cannot imagine Raphael Sanzio going to the galleries to see what others have done in order to paint his Madonna, especially as he tells us how he did it. He was not inspired by Fornarina, although he loved her, but he felt the woman within himself in a great imagination and with great effort sought



to reproduce her upon the canvass. The beautiful women he had seen and known how to contemplate with the eye of the artist had created this image within him; but when he did the picture he no longer felt the inspiration of Fernarina. He who creates something must first have formed something within himself. This is the act which must precede creation, and he who wishes to educate to create, must educate the individual to form within himself these images of the beautiful things that he sees around him. To be able to create as much as possible and know how to express our creation, this is the only help that we can give to the imagination of others since the rest comes by itself. We cannot be the creators of man; as we cannot create genius, as we cannot create the smallest thing, as the Bible also says: The smallest blade of grass, no one can create.

To-day with our microscopical studies, we see tiny beings that are invisible without an immense help of lenses, and we know that we cannot even create those. We cannot create protoplasm by chemistry which is a material without form, and neither can we create the soul of man with all his great activities. It must evidently exist, and we can only help it by education to follow the ways of its development. Thus for example teach the children methodical observation order in their mental images, teach them to meditate, lead them to feel themselves. Since if we do not lead them to feel what is formed within them, so that the imagination occurs as an elaboration of that which they have taken from without, -- if we do not teach the children to isolate themselves and concentrate, to reflect and meditate, we cannot help them to develop their imagination. Helping them to this, that is, to take from without and concentrate their personality within, to reveal to them the easiest and quickest means to arrive at this kind of technique in auto-formation; it is thus that we can attain the finality which we set ourselves; to develop the imagination

I wish to say a last word however indiscrete it may seem; upon the last objection that is made to this; that is, that not educating the imagination the children will not be religious, and hence this method goes against religion, since it makes beings who are too positive, too dry; and taking the arid one cannot live since man needs something spiritual and we hinder them, their spirits which take material things from the environment from being religious. We certainly say this on account

f that prejudice that we have of dissecting man and dividing him into so many pieces, then educate him piece by piece and put him together again. Thus we wish to educate separately the attention, the imagination, and also religion, which is a thing apart.

In the Middle Ages the smallest application, the slightest discoveries, always appeared to teach religion which had nothing to do with them directly. It is always thought that religion must enter into everything, and in fact it may be that it does do so but not in this direct way. For example, we have that primitive men who have imaginations fully developed and love the fantastic, are also religious, while the people who have based their civilization on positive things, on observation,-- the most elevated people in the world,-- are also religious. The religious man is religious in all the forms which his civilization has taken. The religion of primitive men is inferior compared with the religion of superior men, which is based more upon the reality of positive things, while the religion of inferior men has a false and fantastic basis. Hence to say that we must construct powerful minds has nothing to do with religion, from the moment that the most powerful minds have stronger and more triumphant religions. If then it is said that to make the individual religious the child should develop his imagination in that sense which I have said, i.e. taking one thing for another, telling him fables, I believe that we should be making a great mistake, and say something which is really contrary to religion. Why should we put religion on the level of fables? Do we believe it necessary to develop the mind of the child in the false in order that man should become religious? Do we believe that the way to lead the child to acquire faith in our religion is that of making him do a kind of exercise on the incorrect, on the fabulous, the unreal? This would be like confessing that religion is not true and that one must create false in man, so that there will always be something false in him, which will one day be a foothold for religion, which otherwise would not come.

The mothers who teach their children religion, teach it, I believe, with a very different feeling from that when they recount fables to them and say the Christmas is an old woman. The mothers tell the children these things, themselves believing them to be true, and with the great

hope that they will remain always in the soul of the child.. No mother tells these religious tales saying, "Later the child will grow and ~~up~~ long or believe them etc." and no mother says "He ~~is~~ ~~no~~ ~~longer~~ a child, he is grown up, he no longer believes." But the mother believes, that those things which she religiously inculcates in the soul of the child will take root and live, remain in him, like the plant which germinates from this seed that the mother throws into the soul of the child.

If therefore, the objection is made that to develop the man in strength and greatness upon reality is to develop the religious man, we make an affirmation quite opposite to that which we believe to be the truth, since in that case it would be necessary to confess that religion is a falsity. If man is religious with all the truths upon which he has founded his grandiose civilization, and if we see that religion rather grows than diminishes in the civilised world, and that in short the religious sentiment always exists; more, ~~because~~, always more elevated and strange among the most civilised men, why fear that the child losing the fantasy of infancy should not become more religious?? We are in a contradiction: the things are not in correspondence with one another, just as the fable is not in correspondence with the truth. If man is religious, the fact that he is religious ought always to remain. To elevate man, for him who has faith, is also to elevate religion. This is the reasoning of him who believes, and who believes can also in the name of religion combat those objections; which say if you take away the fantasy which makes the child believe the fable to be true, you destroy religion!

In the name of religion itself we can protest against this affirmation.



## ✓ Lecture T

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Lecture of May 22, 1914

In the private investigation in the Biographic Chart, I have included three series of formularies, three models. One regards the biological investigation; and in the past lessons on the biographic chart, I have tried to trace somewhat fully the questions which may present themselves for the biological part. In as much as a biological investigation really may rather be intrusted to the doctor, it would be well for the doctor always to collaborate with the teacher. In the study of the child the office of the doctor would become (as for the rest it is becoming, just because of the practise of science), more the study of the hygienist, of the custodian of life, than that of one who cures maladies. The doctor's ideal would be that, in the progress of medicine, he might, rather, become the custodian of health and that he might come to be called for his advice, continually, by well persons in order that they might have a guide so as not to become ill, as happens in many countries which we consider less civilized than ours, for example in Japan and China. There all the people always pay the doctor during the whole epoch of life except in periods of illness-- then they do not pay him; because certainly the doctor who has made them ill has not fulfilled his duty and is not a good doctor! As for the rest, it is wholly to the doctor's interest to make the sick people get well all the sooner and not to make them die, because whoever dies does not pay anything! So that, even from the utilitarian point of view, that is a very good idea. It is undoubtedly true that now, even with us in Europe, in countries that have our civilization, science is leading the doctor to have this mission, the mission of the custodian of health, a mission that is entrusted especially to the doctor who takes care of the health of young children. For this reason there

ought to be some doctor, specially prepared in the hygiene side of this science, to form part of the faculty of the school, as is being done in many countries. But given that we do not have the doctors, or that we do not yet have them everywhere, as we are treating of initiating a progress, even the teachers themselves might seek to find a way at least in the interpretation of the child - personality, by a logical cognition.

I have put, in the other two forms, in one part, the social investigation, and in the other, the moral investigation. As particular questions are specified in these forms and as these questions may not seem wholly clear, perhaps some word of illustration will not be unnecessary. I have several times alluded to the fact that the study of the child cannot be done without studying at the same time the environment in which the child lives, because to study the biological side is not everything, inasmuch as life develops in an environment and is influenced in its development by that environment. Therefore when we have to study an individual in his completeness, it is necessary for us to study him, not only in himself, but also in the various causes which have influenced his development. So the environment should be studied from the social and moral point of view.

One of the first investigations well understood to be among the most necessary and fundamental, is that about the culture of the parents, and the profession of the parents, of the father as well as the mother. Certainly the mother's profession has more importance from a certain point of view, namely that of the influence she may have on the child, whilst the father's profession, while the father's profession has only an economic one.

The other question I put in the moral form of the B.C. might be considered an enquiry about the family account book. That is something which there is in every family. That family who should not keep with some regularity the book of household accounts would have to be very disordered indeed! I have put as one of the first questions in this part "Is it the custom in the family to make note of expenditures?" Certainly they all make note of expenditures, but there are various ways of making note of them. For ex., there were many women of the St. Loren-

to quarter, who noted the accounts on a crumpled bit of paper, and gave it to the four year old children who, having been educated in a somewhat special fashion at our school, used to go by themselves to do the shopping, and so became almost household managers. Afterwards these pieces of paper were thrown away. But, if there were the custom of keeping the accounts regularly, that would be to discover something which it is well to take into account. This, then also stands in relation with the culture and profession of the persons of the family. It would therefore be extremely interesting to have in a book all the notes of the family expenditures, because then there would be almost no need of investigations, because it would be seen how they spend their money. In fact, the mode of spending the money is a revelation of what habits they have in the home. This is why these lists would have great importance, this sort of household book.

When there came the serious problem of making positive studies of sociology, it was seen that this purely economic criterion, the household expenditures, could give the most valuable data, the most positive, the most important. In fact, we can see from the household expenditures, not only the limits of the amount disposed of by the family, and judge if it is more or less rich, but the manner of spending, this is the important thing and the one that gives an index of great moral importance. The manner of understanding the meaning and purpose of life is revealed by these expenditures, the intellectual progress, the state of civilization. Thus it is known in general, that there are persons who spend all their money on amusements, and others who live more miserably than their income or earnings would permit, because they believe that they ought to live a life of absolute privation. Between these two limits there are gradations, and it is important to find them out because they give us an idea of the family in which the child lives.

There have been made many sociological studies, and there have been written many interesting works in this connection. One of the most simple and the most effective demonstrations is the comparison between the family of an officer, a high English officer, and the family of an English workman who was earning as much as the officer. Indeed there are workmen



who succeed in earning a great deal. Now the family of the high official has an elegant apartment; the wife dresses elegantly, goes to the theatre, gives teas, etc., whereas the workman's wife does none of all this, has a house without aesthetic ornament, without sufficient conveniences; does not dress elegantly, but only accumulates grossly expensive things, for example, jewels and ornaments of gold, all made in very nearly the same fashion, without the appreciation of distinctions. Hence it is seen that it may not be the economic fact which makes the differences between men, but certainly their grade of education, and that to solve the purely economic question, limiting it to the expenditures en masse, is to solve the first part, while there is a second part of it consisting in the details of expenditure, and this second part is no longer connected with the economic fact, but with the educational fact. There are evidently many persons, who, having money, do not know how to utilise it in the best possible fashion, because they are ignorant of all those things which our civilisation at this moment can give to man; because that very civilisation, so we say, does not know how to advertise itself sufficiently for every one to know how to utilise its benefits. In fact, there is not an education to direct people how to spend their money well, and it is not seen how money may be spent badly.

This is a great economic, social question. The greatest and the most profound, because if all this could be known by means of study (it is already known in parts) if these studies could become generalised, then in some such fashion the state of things in the whole of civilised society would really be changed. Also the rulers would know of what the people had need, the common people, the different classes, whereas now the rulers are rather blind in the interpretation of these needs, because the interpretation is made on the needs en masse, without an intimate, minute, personal knowledge, and it is only this personal knowledge that can give a true light on the social question. It is because of this that modernly when the social question is put on a positive basis it is rather far removed from former times, when social questions were considered largely, en masse,

and instead is going on to analyse family by family. It is precisely this economic part, the family expense accounts, which reveals the civil status of the family.

There is, for ex. Le Play's great work, which has been the first of these works in the sense that it has given great light and great impetus to these studies. However, it is found very difficult to penetrate into the families to ask for the household accounts. Evidently this is an extremely difficult thing, but if we think how difficult it was to make the biological researches for abnormal and diseased children, (it was very difficult indeed to ask certain questions which depended upon the state of health of the parents in whom was confirmed a kind of reserve, a wanting to keep everything secret, even the things of slight importance which are not worth such consideration) we may consider the undertaking less difficult than it is thought. But this reserve of which I was just now speaking is somewhat a thing of less advanced times, like the timidity and blushes of someone not accustomed to be in society, whereas one who is accustomed to it knows very well what are the limits in order that others may not intrude too far into one's intimate life, and just because of that, does not have this sort of reserve in replying to the simplest questions. Now, however, we have much more naturalness and less constraint in the communications regarding our investigations. But the difficulty is, rather where to find persons to carry out these investigations. It is certainly not reasonable to think that anyone whatever might undertake such employment, as Le Play had thought that ladies of rich society who have no work to do ought to undertake this as their work. He had idealised this mission of the ladies, who were to have gone into all the homes to ask for the expense accounts. And there have been some ladies, even of the aristocratic Roman society, who have begun to make these studies and have given interesting contributions, but certainly the thing was not practical and was not possible on a large scale, therefore this still remains a problem.

On the other hand, the solution of the problem seemed very much easier when there was initiated the institution of the Case Dei Bambini, because as you know, this institution was initiated in the houses of the

working men, orderly workmen, who always have employment, hence an elevated class of working men. These houses which were formed from the hygienic point of view had to have these schools for the young children who were living in the buildings, hence all the children of the families came to be gathered together in the school. A special feature of this school was that the teacher had to live in the same building. It came about then, that the teacher was put into close correspondence with the parents; that is to say that all the people who lived in the building were easily able to furnish the teacher the knowledge of all these detailed particulars of their cases. Nothing could be more simple easy and spontaneous, than that these mothers, seeing that their children were entrusted to an intelligent person who procured for them evident benefits, should come to confide in this person. Perhaps they confide in her beyond the limits necessary in a scientific investigation, as for ex. happens when the mothers have acquired a certain confidence because they believe that the investigation is made for the good of their children, and they put themselves to making confidences which greatly exceed the limits of science, so much so that these mothers need to be begged to confine themselves only to answering with the greatest simplicity the questions which are put to them.

I believe that also the teachers in the common schools may be able to make these investigations because they so easily make themselves the confident of the mother's confidence. The teachers who are in schools similar to our Case Populaire, can for ex. go to visit the children's parents more easily and more simply than the Countess or Princess who should go to ask "How much a day do you spend?" These visits of the teacher might be two, three, four, as many as necessary to get the notes which interest her. However, it is probable that the teacher will not go only with the scientific aim of giving a contribution to these statistics, but also she feels a great interest in the environment in which her children are developing, and this interest of the teacher will be the easiest way to confidence on the part of the parents.

I have made a series of questions in order to facilitate this investigation. Now it is to be noted that when these investigations should be made, if for ex. it should come to pass that these schools might truly



be the beginning of education for all, because the elementary school is only the continuation of that already initiated; if therefore, school for everyone should begin at the age of three, these investigations would be sufficient, because afterwards one would have these same children grown a little older. This scientific, social investigation, would have the same fundamental importance as the hygienic investigation when it was directed to the study of the first age.

returning to the custom which there ought to be of noting all the expenditure, it occurs to one to say, that in their turn, all the other habits of the family are revealed by the expenditures themselves. How much is spent for laundry, how much for hats, how much for brooms, how much for pens, paper, etc. For ex. in Germany, interesting statistics demonstrate that many brooms are consumed, an exponent of an elevated hygienic level.

One of the questions necessary in order to be able to have a comprehensive idea of the wellbeing, or less, of the family from the economic point of view, is the number of persons composing the family, and also to know how many of these persons are adult and how many are children; if there are few adults and many children, and if these adults are earning something, because in such case the conditions of the family may evidently be more substantial than those of another family in which there is only one person who is earning and there are very many children. For that reason we have the question, "How many persons of the family are earning something?" This is a thing which has much importance in the poorer classes. On the contrary, question "Are you successful, and how successful are you?" will be useful for the persons who seem in more comfortable circumstances, however this may not be something absolute, because I repeat, there are persons who are very successful and do not know how to spend, vice versa, there are persons who are not very successful and yet are able to endure life in the right way. Another question, "Do they have servants?" This is an index of comfortable circumstances, of vanity, of laziness, according to the cases. This is a thing to be interpreted afterwards. "Do they have sub-renters?" that is to say, there are some persons who rent an apartment and then sub-let to others. For ex. there are here in Rome, some

poor people who take quite a large apartment, for ex. of six or seven rooms, and then let one room for every family, hence there are several families, and they sleep in the corridor. They they gain not only their own house rent, but also their living in such fashion, that to take one of these apartments and sub-let is, is to solve completely the problem of life, because all its necessities are paid for? However little by little with the developing of civilisation, these things are coming to be prohibited. You understand what may be the life of a child in a house where there are sub-renters. One who desires to make a living in this fashion certainly not does not make enquiries to whom he is renting the different rooms, and when the child finds himself in an apartment where there are seven rooms and eight families, and they live a life of the utmost misery, one might say of the utmost condensation. One of the most educational means is undoubtedly that of having even a small home which permits of the intimacy of the family.

The morals of the family are so united to the form of the home that one might say that they constitute one single fact. If the family does not have the possibility of having its proper environment, enclosed intimate, it runs great dangers, and great dangers stand over the education of the progeny. This is so much a necessity that one may say that the persons who have not a home, even though it be small, enclosed for themselves, form a family which presents a difficult environment, above all for the education of the children, as I said.

Another important thing, which can be seen upon penetrating into the homes is this: is the persons can succeed in keeping the house in order. Not if they have the goodwill, but to see if they succeed. This is a thing which has great value, because there are many persons who would like to keep the house in order but do not succeed, since the order of the house does not depend upon one single person, but upon the co-operation of all the others. An orderly house shows a family which has special positive education, which has an immense value in the moral development of the children. Hence, when the people succeed in keeping the

house in order, it may be said, the whole family is elevated.

One of the best results which was obtained in the St. Lorenzo quarters, was that which was obtained when little intimate apartments were given to the families who had previously sub-let. After some time the husbands, of the fathers of the families, were more ordered, the manner of speaking was different, the manner of dressing began to change. On the sills of those windows which at first held only lurid rags, there began to appear vases of flowers. Altogether there was a comprehensive moral benefit, a more elevated level had been attained.

The other investigation which is very analogous is this. Even intimately united, is the moral investigation.

Now here, instead of making a true investigation with questions, I have put as guide special criteria for judging the will of the persons. Evidently we would not go to question people about things which refer to the true morality of life according to the criteria of this morality which they have, criteria of social order, not of human order, therefore not always just. This is an abyss which we must not sound at this moment. However, from this immense question we need to raise only that which is practicable. It is very difficult to make a moral investigation, because people are very often immoral without knowing it, and because it would be well to gather some data which concern the absolute criterion of morality and not not relative to the social ~~criteria~~ morality of the times, etc. Consider that these criteria of morality must overflow a moral environment, the normal social environment. We do not go to make the investigations, neither in prisons nor in other similar cases, but in the normal families which are moral from the social point of view, therefore the investigations upon the morality must be a little finer than those which regard the breaking of the laws, etc.

One of the criteria which can give an idea of the sentiments of the persons is that which can be taken from the judgements which the persons make upon themselves and upon their family, upon the boasts which the persons make on themselves. Since when a person boasts of something, he believes that that something is right, and here is the principle moral criterion. The moral criterion is not so much that in which we believe to be wrong, we are becoming moral, but when we pride ourselves upon things which



are not right, here is the immorality, which is the same as to say the callous, the hardened state into which one can slip. This is the finest investigation: to know of what they boast in the family. From this, we can have sincere descriptions of the morality of the persons, one finds some persons, for ex. who boast of being hard workers, others will boast for ex. of having three or four daughters who have resigned themselves to living poorly at home so as to help the mother rather than going out to work, this may be someones boast. There may be the boast, for ex. of a father of a family who says: "I have never stirred from this city!" Other persons will say, "We have never gone a single time to the theatre, my daughters have never gone to dances, etc." Others instead will boast of this, "My daughters have all worked since early youth!" Thus it is that the diverse criteria are to be seen which they have in conceiving things good and not good, etc. From the fact of their boasting of them or not. Some will boast of being honest. Now the persons who boast of being honest feel the weight of this honesty in such a manner that there have been difficulties in the way of keeping themselves honest. This also is a thing to be studied. ~~Some may boast of doing good, of being very bene-~~ ficient, of sacrificing themselves a great deal for others etc. This also is a criterion which may be of interest, because there are persons who can do charity without saying so, who can sacrifice themselves without letting it be seen, which signifies that the sacrifice is not a weight, whereas it must have been for those others, allowing that they spoke of it with such great frequency. It means that he who speaks much of charity, does it with drudgery. He is in a different category from the persons who do charity without speaking of it.

Thus also, he who boasts of being descended from rich and noble persons, or of having riches (which are not apparent) has rather vain ideas, and still more, cannot be much accustomed to riches, otherwise he would not speak of them, and if he were really very noble and rich, he would not tell it to everyone, but in general, would seek to hide it.

Thus, the social relations between husband and wife may be interesting. There are women of the people of Naples, who, when one asks them, "Does your husband beat you?" say "Whenever he likes. I have a very

good husband, he is very fond of me, he is jealous of me, he beats me a great deal" these remarks are frequent. There are wives who boast of never having contradicted their husbands. I remember a lady who said that she had a bestial husband and she spoke of her great virtue in never answering him and never, never rebelling. She had always been docile in all her life and this certainly is a great virtue- I however said to her- " it seems to me that you make your husband cut a very bad figure. You could very well have prevented him from becoming more bestial and you would have rendered him a benefit, whereas when one does nothing to prevent a man from becoming bestial and one does not try to correct him, one is doing him a wrong, all the more so as he, seeing the contrast between his nervous state and the serenity of the person who is before him, will become much more irritated. If instead the lady had been more remiss, the husband would have tried to reform himself.

All this is an interesting study. Thus when one hears a wife who says: "I understand that it is the husband who should be the master, however I am not a slave!" She admits that the husband ought to command and this is a criterion,, and on the other hand one hears married couples who say: " we both hold ourselves free to ~~do that which we will;~~" and the wife adds ; "my husband lets me do that which I believe in doing, things which are good , honest, etc. he does the same on his part, we trust each other and live in peace". This too is a criterion; although different from the preceding ones which we have shown.

Thus some people boast of being very religious, and boast of it a great deal. They say: "I go to church a great deal and want my son to do the same etc. " In general religious people do not boast of being so. And therefore he who boasts of being very religious, is not then so much so at bottom. Thus with patriotism. There are persons who do nothing but talk of their country: the sons must be given to their country etc? The mother must be ready to give her sons for the war. The aim of the mother in bringing sons into the world is to make them become good soldiers. They are all special criteria. Others would say instead , "I cannot endure that there should be the military system, that my sons must be killed when I have done so much for them!"

There are then persons who think a great deal of the proofs of

who are around us.

Another criterion is given by the deprecations. For ex. the women of the people who complain that the husband becomes intoxicated, drinks a great deal, this is the saddest complain of the women of the poor people, but nevertheless it is also certain that the wives do not notice that the husband drinks when he does not become bestially drunk, or else they too do the same. Even the fact that there is this complaint, is something. To reveal a wrong is always to go towards the right, but there are sometimes deprecations of things which we should not consider wrong. For instance it will be found that some complain because their sons are not submissive; he contradicts his mother, the father wishes him to study this and he does not wish to. The father wishes him to go in this trade and he rebels and there is no way of forcing him to obedience. Thus with the daughters; they do not wish to attend to the affairs of the house and would like to go out to earn money, whereas the father does not



wish it. Rebellions of this kind will also be found many times in aristocratic families. The mother says that the daughter does not wish to go to all the balls but would like to paint instead. Many ladies have asked me questions about my method which however is in regard to little children concerning older girls. They say to me, "You who want liberty, tell me what I should do when my daughter wishes to paint, and does not instead wish to go to balls; tell me, you who always speak of liberty; my daughter does not wish to study anthology but complete works. It is impossible for her to spend so much time when she has so many other things to do. In the meantime she absolutely does not want anthology, therefore she will become an ignoramus. What should I do?" Here are standards which also have their importance. Many times one hears a complaint made about a Prince who wishes to legitimise his natural son. That the Prince should have an illegitimate son, this is considered natural son, this is considered natural for him, but that he should recognise him, this is the terrible thing. There are families cleft, not because the Prince has an illegitimate son, but because he recognises him. Then the father, the son, the brothers are each by himself alone. The large inherited palace is empty as though death had entered, and thus there are many matters of deprecation which have fundamental importance for understanding the environment in which the individuals must grow.

There will be persons who, just as others pride themselves on being religious, deprecate religion itself, and complain that their sons are so foolish as to be religious, notwithstanding that the intelligent father and mother had deliberately created an environment where there is no religion, in the meantime, comes a degenerate son who is religious and they do not know how to correct him of this species of mania.

The educational standards in the family also have importance. The confusion of these is very easy, especially if a special method of education is being spoken of. One may hear for ex. "I have never allowed my children to call me thou, I do not allow my children to kiss me; once only I gave my son a kiss, when I went away." Again "The father is very severe with his children?" The mother says "He makes them walk the straight line, he does not allow them any liberty, otherwise he whips them, and I too do the same." Once there was a dispute between the father and mother about the method of educating the children. The mother said "My

husband whips the child and I always tell him not to do it, because it seems to me that it is an effort to whip him and what good does it do him? I instead do better I send him to bed without supper, thus I do not have the effort and I eat more.

A discourse of this kind would be sufficient in order to have a moral educated criterion of the home in which the child must grow.

Thus to do a great deal to amuse the children, to reward them, to punish them are all things which give an important criterion, and ~~if someone should say that he takes special care of the development of the~~

If someone should say that he takes special of the development of the conscience of the child, and tries to assist its development, and that he gives liberty to the children, that he has recognised rights of the child, this would be a fact which should be gathered by the teacher, who should convince herself, that in order to educate the children, she need also influence the family.

It occurs that the ideas which have been had up to this point on the treatment of children change a little, and the moral development of the children is recognised, their rights are recognised; in short, this liberty which is understood in the sense that it is a liberty of the life of the children is recognised.

If these educative criteria are not gathered it is much more difficult to exercise an influence upon the family.

It is necessary on the other hand to commence with silence. It is a great lesson, the lesson of silence. It is necessary to be silent in order to make others talk, because only the revelation of the state in which the others find themselves can make us understand from where our influence if we believe that we shall be able to have an influence should commence.

If we think in fact of the length of the day and of the short time in which the children are in school; we must understand at once how little may be our influence in comparison with that of the family and how necessary it should be to make ourselves collaborators of the mothers of the child.

The judgement of the mothers, has sometimes even often a great influence; however much the mother may have criteria of education,

perhaps not just. But she always forms a really just idea of the state of the children, also from the medical point of view. Doctors in fact for their diagnosis often value the judgments of the mothers since the mothers always have their child under their eyes and know him better than any other person, so that we turn to the mothers not so as to try to search into their consciences and to transmit to them what we believe to be right, but also we must take from them, from that wisdom which they have accumulated within themselves by the continual observation of their children. In general the mother perceives the grade of intelligence of the children, of the goodness, of the gentleness which the child may have better than any other person, inasmuch, I repeat the mother always has them under her eye. There are mothers of the people who give special conclusions which are directly diagnosis e.g. they will say of an idiot: "he does not understand anything- of a child who is simply backward: he is slow- of the imbecile: he cannot be still for a moment- Then they understand whether he is good or bad. With normal children the study is much more difficult because it is a question of more delicate facts and an intelligent mother will better know these facts and when she will have put herself upon a more luminous road and then the mother will become a great observer and here it is that her collaboration with the teacher comes.

Therefore all these things should necessarily be aids to a study which is made in the school. That the home and the family should put themselves in unison with the school in order to educate, this is an old proverb, but in the act of applying it, here is the difficult matter. To be able to do this! To be able to do this is a problem which does not depend upon the biographical chart. In order to be able to do it, it is also necessary that the teacher should have time and that she should wish to do it. Perhaps I repeat, our school for little children would help towards the solution of this problem: first, if they are in the "Case popolari" or model tenement because then it becomes a very easy matter. Secondly because the teacher of little children is not the person who instructs, but the person who lives with them, who helps and this person would very well gather observations



and advise the parents.

Finally if it is possible in a school to gather many data, this is the school of the little children. Later it will perhaps be more difficult to find the opportunity, the time and the means of continuing these researches.

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## Lecture II

For private circulation among the members of the class only:

This version of Dr. Montessori's lecture, being the translation by Mr. Clarmont, of the report taken down viva voce, Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorized for the personal use of members of the class.

Lesson of May 25, 1914.

It is not easy to obtain a clear idea of intelligence, and psychologists also do not define intelligence, nor describe its characteristics. I believe that to treat this question it is necessary to pass to a series of subjects which can all give us a contribution which serves to clarify our ideas upon intelligence; although it seemed that intelligence is an easy thing to understand, and all speak of it as an intuitive idea. But when we try to explain what it is, we meet with chaos, all is nebulous and indefinite.

Intelligence, one might say, is the whole of the psychic life. Since we have made a diagram of the nervous system, as a synthetic basis of the nervous mechanism as a whole synthetic from the physiological point of view, schematic, one might say from the anatomic, let us depart from this.

The diastaltic arc which serves to fix ideas with simplicity and possibly therefore with clearness upon a whole which is infinitely complex, consists as I have said, in the sensory and motor peripheries. The conducting and nervous paths, centripetal which go to the centre, centrifugal that go to the centre to the muscles, and the great centre of elaboration formed from the persistence of the perceptions by means of the memory, the formation of ideas, the association of ideas and superior operations, such as reasoning, and above all imagination.

Now there is something else to add to this idea which broadens our conception of the whole and gives a contribution to the understanding of the intelligence, and this does not consist in the facts themselves but in the speed more or less, with which these facts are performed.

There is a great difference between saying that one can feel, perceive the sensations, elaborate thought, and change it into action in a

very long time and in doing all this rapidly in a much shorter time. The psychologists speak in relation to a conception of the whole of the intelligence of the permeability of the nervous paths. Permeability - it is a figurative word - means that these stimuli, the impressions, all this work, passes rapidly along these paths, which offers small opposition, are in short, more or less permeable. Between the two things there is a profound difference, that is to say, between the fact in itself and the time in which it occurs. We might make a comparison with what happens in the life of society? For ex. the fact of being able or not to cross the sea, of being able or not to cross the land, are facts material in themselves, are, one might say, the conquest of the creation, even of a form of society. When our forerunners had their galleys, moved by the hand of man, which could not be guided over the great seas but had to hug the coast, they nevertheless navigated the sea, and formed civilisation in which this fact was established, of crossing the sea. Similarly, when they found means of locomotion, first horseriding, then carts and carriages more or less perfect, with which they could cross the earth carrying men from place to place, they established a certain form of civilisation in which there were these ways of conduction, which put men into communication in different parts of the earth and transported things of different uses to men. But when with means extraordinarily perfect, man can rapidly cross the oceans and the earth, we find ourselves before quite another form of civilisation and life; and thus the form of intelligence as a whole is very different in the individuals in whom the permeability is difficult, and in those in whom it is rapid.

And so we may say that one of the contributions to the formation of what we call intelligence is given by this; one may say figuratively the permeability of the nervous paths. If for ex. a person who is touched re-acts torpidly or does not re-act, and another instead responds to the lightest touch, we say that the first person is slow in intelligence and the second is quicker; and so when it is an inner work we have that one person at an idea immediately associates another with it, we say that this person is more intelligent than the other, who has instead, associated it



with great effort. Thus, he who at once, with a reasoning, derives an idea from preceding ideas, spontaneously, rapidly; we say that he is intelligent with respect to him who can make this reasoning but with much effort, with much help. And the same may be said of movement. It is easier to illustrate with animals than with man. Those among the animals that we consider most intelligent are those who can move most rapidly, and have an easier coordination of the movements. Those who instead are slow, who have very slow torpid movements we consider as less intelligent. Hence movement, ~~permeability~~ <sup>besides</sup> the other facts, gives a contribution to that we call intelligence.

If we consider the child and the man, we see that only the child is poorer in quantity of material substance, so to speak, but is also slower in this permeability, in this child in fact, we have seen that one of his characteristics is that of moving slowly.

Passing to another conception, many psychologists have wished to apply a simple definition of the intelligence, and concluded that the "intelligence" consists fundamentally in distinction as a basis of all construction. In case they speak of the central elaboration of the nervous system; which consists in this; to distinguish one thing from another, to distinguish similar things, from dissimilar things. It seems an infinitely simple thing, and these are also the principal definitions given by the psychologists. For example, the first step of the mind is distinction, the consciousness of difference, and the first principle of every intellectual exercise, nearly all the psychologists say this - is to distinguish things.

To distinguish things would be nothing more than to order them but this in substance is only a part, for we may say; in order that the central elaboration may come about it is necessary to establish order; in order that all this work which then comes with a certain rapidity shall occur in a useful way, in the natural way; it is necessary to lay a foundation of order that things be distinguished one from another. This would be all.

When therefore our children educate themselves according to our method, which begins with the education of the senses, these children,

in reality, educate their intelligence as well. Since what do they do fundamentally? Distinguish things, recognize identical things from different things, recognize extreme differences between two things of the same category, differences which are always final between the same things and they distinguish one category from another, forms from dimensions, forms and dimensions from colors, all those visual sensations from auditory sensations, and in these distinguish noises from sounds, then these auditory sensations from tactile, in these again the sensations which are purely tactile from the thermic, baric, and muscular sensations, etc. And we say; "the more sensory education is continued, the more the senses become educated." But we might say: "the more the education of the intelligence progresses": since this capacity becomes always finer of distinguishing things similar to one another, perceiving finer and more delicate similarities. This is the education which the children come to make when they exercise their senses; so that they not only come to take from their environment and to do repeated exercises which render the ways always more permeable, but these sensations also come to be catalogued within the mind with order. It is not as though things were bundled together chaotically, as all children do generally who do not have this guide, since they are impelled instinctively to take all these sensations from the environment, but have to take them in disorder, in a kind of chaos which afterwards, if it can and as far as it can, will have to be classified in order..

Here, instead, while the child takes, he classifies. So we might say that he not only takes the first materials of his intelligence but also constructs his intelligence according to its laws, which, according to the observation of the psychologists, consist fundamentally in this; in distinguishing things and images, then collecting them together according to their similarities and differences.

The English Associationists say that ideas are associated by similarity and difference; and when this kind of order has been made, as if, for example, shelves were made in a library in which to put books, according to the different kind of material when this fundamental work is done and hence this mind is constructed with this order, these children then become spontaneous observers of their environment and gather new images..



These new images however, do not enter by chance into their minds, but are catalogued, as for example, in a well ordered library, every new work is put on its special shelf; so that the number of books may increase without limit but the order will never be disturbed since every new book which enters has its place.

And given this first start, the intelligence is not only continually enriched, but is enriched without being disordered; and when the child sees an external object, which he recognizes and can catalogue, he has as you know a special feeling of joy, which may be compared with the scientist when he discovers something. But when, for example, he finds that the window is rectangular or the sky blue, he does not in reality discover the window and the sky. What is it that so impresses him? He discovers the category to which that thing belongs; that the shape of the window must be put in the category of the rectangle, that the color of the sky must be put in that category of colors that is already distinct in the order of his mind, and that which represents the discovery and gives him joy, is that of really taking all these objects and making of them his own inner organism.

When, for example, in a house in which the family is gathered in intimacy, someone comes and knocks, a stranger, this stranger's entry gives little pleasure to the others in the house, because they do not know where to put him, what he comes for, who he is, but when a friend comes, a relation, someone who is loved, they enter with a great effusion of joy, because they know who he is; he is the brother of so and so, the person loved by such and such a person, has this relationship, this destiny is well known, they know where to place him. And so we might say that the ideas of the child at the coming of all these relations increase the great family in an order. Hence the joy, the impulse of the child always to acquire more in the environment, since when there is the impulse of pleasure, the work continues spontaneously.

When therefore, the authors speak of this character of the intelligence, they speak of the fundamental order, which is not all, since one might say: there exists a very complex correlation in the intelligence which will be based upon this order, but this order is not all.



Making a comparison with the Biblical creation of the world may perhaps illustrate this idea. The creation in the Bible is described more or less thus: in the first moments what does God do? He divides Light from Darkness, then the sea from the earth. He creates order. Observing these first moments, one might say that the Creation consists in ordering the chaos, it is a creation of life, which however is not created with great labour, but only with two words: "grow and multiply."

And considering operations of the intellect, one might say that this order is essentially the basis of all. For example, we say that a person is intelligent in art not only when he distinguishes the beautiful from the ugly within their limits, but also when he can distinguish the different schools from the examinations of the works of art, can distinguish the authors, and thence catalogue the productions of those works in the different periods. We say that the literary man is intelligent not only when with his ear the sensorial part he can detect the phrase which is grammatically badly constructed or the verse which does not correspond to the laws of meter, but we also say that he is intelligent when reading some verses he recognises to which author they belong and to what epoch. Similarly we say that a workman is intelligent when he can easily distinguish a manufacture, for instance, one from Germany, from one of Italy, a thing which the others would not be able to do; or else, if he can perfectly distinguish the material of which some cloth is made. To compare, to distinguish, judge, are basis that we find throughout and as I said also in the construction of the imagination.

The great poets, such as Dante, when they construct a great work with their genius, this work is full of comparisons, between similar things, so that we can almost come to agree with these psychological offers who say that all consists in this; that in all the manifestations we must naturally necessarily recognise order as a basis, and in the order the union of things according to their differences of their similarities.

Now I believe that it may be interesting, emancipating ourselves a little from the psychologists and from the school to examine the phenomena of intelligence freely, to see if these phenomena can give us some other contribution to the understanding of the intelligence, so much the more when this is practically useful to us, since we have to educate

children. In general, the psychologists study psychology by analysis and, many study the psychology of children. Now we might say that the intelligence in its most striking forms, and where it can give a guidance and a light, is in the adult man; in the man who acts in society, not in the man in formation, and perhaps we can have a luminous contribution of the greater facts of the intelligence, instead of from the study of the analysis of its elements. We can perhaps also have a guide in our work, observing what the men do who have been possessed of great intelligence.

If in short we are still a little in the dark upon this question we must begin where the children begin. Begin with the large stimuli and what greater stimulus can we have than that of the great men who produce much? This can reveal to us the characteristics of the intelligence as a whole. I therefore wish to take the liberty of making a brief excursion into this world of the intelligence issuing from the perhaps restricted forms of official science. It is interesting to see some psychological phenomena that are revealed by the great historical facts that we study as history but not as psychology of humanity. Many scientific discoveries make part of history, many of the great events of the recent periods of our history. One of the facts that has most interested me, as it occurred in my profession was the discovery of the cause of malaria. What was malaria? A scourge of whole districts were completely devastated colonies of men destroyed, and soil untilled: misery and death. This scourge evidently attracted the attention of the scientists. Who are the scientists? Evidently they are the most intelligent persons, not only that, but persons who have the greatest preparation of the study of their times. Many contributions have been made to the final discovery of malaria. In the meantime what were the beliefs before the final discovery was made?

The theories, in short, were these; Laveran had discovered that in the blood current were sufficiently large microorganisms, which could certainly have been able to pass through the walls of the human blood-vessels; and it had been known for some time that circulation of the blood is a completely closed system. Hence they were living beings in a completely impermeable environment. But it was said that malaria was taken

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breathing certain miasma. Miasma is a vapour—a gas. How could the gas produce a microbe? They said. But who knows perhaps these microbes are carried on the wind. It was known that microbes cannot live in the wind but even if they could have lived, how could they have entered the circulatory system? Evidently they could not do so. Nevertheless, not one scientist, not two not three not all the scientists of the world, in Germany where there were great studies made of malaria, in Italy especially, in England, not few but hundreds of noted persons all repeated this kind of chorus which carried so deep a contradiction in itself, that the air gives a being, and that this being must penetrate impermeable walls with the air. And the students who go to these universities in hundreds and who have also been prepared to reason, since they have studied much mathematics during a long period of time, without seeing the contradiction always repeated the same things, and they also became great scientists and contributors to science.

There was an English scientist named Ross, who found that the microbes of malaria were inoculated into the birds by insects. How did the discovery come about? With this reasoning; if some insects inoculate malaria in birds it may be that insects also inoculate malaria in man. That was all.

If you compare the great work of intelligence of the men who have studied the primitive theories of malaria with this simple reasoning if this happens in birds naturally it may happen in man, you compare the epoch of darkness with that of the discovery. In the epochs of the clouds there is a confused work of a quantity of intelligence, in the epoch of discovery there is a little simple piece of reasoning; and when this little reasoning has come, it is as though there had been the fecundation of a vital germ; all the intelligences are illuminated and think; but how was it that we used to say that these beings could penetrate the blood notwithstanding the impermeability of the vessels? Evidently there had to be an insect that inoculated them, since otherwise how could they have entered? Men then wore veils, put veils over the windows and found in truth that men could live with impunity in these regions and cultivate the earth which is fruitful like all other earth; the lives were saved of



vast numbers of men, and it is as though with a peaceful war great regions were conquered which they did not before possess. The work was not done by the mighty work of an intelligence, it was done by a tiny gleam of light which had to make its way through a stratum of dark forest growth, and this beam of light was a reasoning of which the other men, even in millions were not formerly capable, and this little ray was needed for all to then turn upon themselves and say; "How could we ever have all been so blind?" and man laughs at himself, laughs at all this complication, as if he heard this phrase; the proud shall be humbled, blessed are the simple for these are upon the way of truth.

and what was the reasoning made by Christopher Columbus? The reasoning was entirely simple, one might say, analogous to that of the discovery of malaria. He said: "If the earth is really round, going always away from one side, one ought return to the point of departure." A very simple reasoning which the ignorant man could make as easily as the instructed one. The most instructed men make a great effort while the simple man does not make a great effort, and the only difficulty is that the other men shall believe and help; the great difficulty was that a man should really have the courage to put himself upon two<sup>(?)</sup> little boats and go out on to the ocean. One might say that faith and courage are the substance of the great discovery, but as regards intelligence it is all done with the reasoning of simplicity. It was because the man was simple that he was able to say this. It was given him to find a great continent during the voyage; but these are the surprises of the environment. Man in himself cannot do more than so simple a thing as a reasoning such as this. So the answers and prizes that the environment can give, these do not depend upon the intelligence of man, and when we see the strangest answers and rewards, most varied, differing immensely in magnitude given to men who have made similar reasonings.

For example, it is said that Volta had his wife ill with fever, and great value was attached in the medicine of those times to the cure of toads and frogs; and he not being rich was himself preparing a broth of frogs for his sick wife. He had attached these frogs' legs to the iron bars of the window, and saw the frog move. Another person might have

seen them move and not have thought more about it. The impermeability of the ways, a stimulus that leaves him remain torpid, would not have produced other effect. But Volta could not remain torpid to a stimulus. He made a very simple reasoning. He must have reasoned thus: the dead do not move: a force is needed to cause movement; therefore, a force has been developed. And seeing this force he came to discover electricity, which is really noting figuratively, a spark which has brought an immense progress. Men putting faith in this fact commenced themselves to follow this path, which is the path of the simple primitive discovery which however gives a great light and opens the mind with faith, and renders a great advance easy for man which was closed to them in their ignorance of something which exists hidden--opens the way through the clouds that had obscured the intelligence. These are tales suitable for children, they are so simple.

Galileo saw a lamp oscillate and instead of remaining insensitive to this simple fact, as persons are generally insensitive to simple things who are accustomed to great works of the intelligence, he observed it, realized that this oscillation did not occur by chance, but that when this lamp went a certain distance from the center on one side it also had to go the same distance on the other side, and that it did this in the same time, so that it was possible to measure time.

The story of Newton is very simple who saw an apple fall while he lay under a tree and thought; why did this apple fall? The earth must have attracted it; and thence came the theory of gravity and gravitation.

Studying the life of Papin we find that he was a great scientist, he was a doctor and mathematician highly honoured in his times, and was also made doctor "ad honorem" in a University; but many other Professors were scientists like he and perhaps doctors "ad honorem" but what is it that makes him extraordinarily celebrated and well-deserving of the whole of mankind that has followed him? The fact that he saw that a force was developed in a boiling kettle, by which this force that moved the kettle-lid could also move a piston. Hence the possibility of finding a new moving force which came to give a great contribution to civilization. And so one might say that in the productive and grandiose intelligence, that of the great phenomena that leave traces in civilization,



that remain in history, and benefit humanity, we find the possibility of making a little simple reasoning upon an exact observation. It is this rendering oneself humble and simple in mind, the ridding oneself of something that is not useful, which is darkening, and might therefore be called vanity of the mind, and which is yet believed to be the great intellectual work\_to be able to separate, or providentially to be predestined to rid oneself of this, and leave the mind as though purified as the primitive mind of a child makes a little piece of reasoning with great simplicity\_ this is what gives the discovery. It would also be interesting to follow in the history of the intellectual work of man the collected errors that can hinder progress. These errors are so common that we all know and repeat that men who make a discovery are not understood by the men of their time, even when this discovery is evident and brings a benefit. It is for this that the Messiah and the Apostles have to be martyred. But these great persons have a truth to give. Hence it means that the other men not only are unable to give it, but also have in themselves an obstacle to receiving it. One of the examples that is perhaps most demonstrative is that of the meteorologists. You know that in ancient times it was said that stones could fall from heaven. The vulgar repeated this but the scientists did not admit it with their reasoning they found it impossible that a stone should fall from the sky. Well in 1790 it happened that a very large meteorite fell in the presence of 300 people, who were not only solemnly able to testify that this stone had really fallen from the sky, but able to get it and find that it weighed 10 kilograms. And official report of this fact was made by some scientists. But a great protest was made on the part of other very eminent scientists, those who do not make official reports, but study in higher spheres. Among others a great physicist of the times wrote this "It is sad to see a Municipality give credence with a manifesto to the sayings of the vulgar and to see testimonials to a fact that is evidently impossible." The director of a museum was amazed that there could be illustrious heads able to believe facts so unlikely. Now they were not treating of an unlikely idea, which came into someone's head in opposition to their ideas, but it was a case of a stone weighing 10 kilograms,



which could be handled, and which 300 people had seen fall. So it is not only the deduction of the mind of a genius, but sometime it is actually a material fact that is invisible. There are people who seeing this stone of 10 kilograms deny that it is there. This kind of incredulity this impossibility of seeing, goes beyond the impossibility of seeing what is spoken of in the sacred books. In the Gospel for example it says, Saint Thomas was incredulous since to believe he had to touch, but no: in the world we have phenomena deeper than this, there are people who touch and do not believe so that one cannot even say: "In order to have faith you have to touch." On the contrary one has to say the opposite "To see & one must have faith since otherwise the whole of the sensorial life is not enough." The history of science is full of such interesting facts. In 1700 there were special theories upon the genesis of human beings. This problem exercised their minds extremely. It was said: "How do living beings come?" It is certainly one of the greatest problems. How does a complicated being become formed by himself in all his complications, how does life come? The conception that a being formed himself "ex novo" from nothing seemed difficult to their minds, whence the scientific theories of the times. These were divided into two groups. One groups, which was called that of the ovulists thought that in the female egg there was the whole complete future being which was then destined to develop when its time came; and which also had within itself other complete beings, certainly extraordinarily small, and these again in their turn had other beings still smaller "wrapped up" as they said, and these again others still smaller, and so on and so on, so that Eve it was said had to have at least 200,000,000,000 beings wrapped up one within the other; and little by little this unfolding was unwrapped all these eggs was released and there came the new generation. And these ovulists were enemies of others, who said instead: "Yes but not in the female germ, but in the male germ all this occurs, and hence these were called not "ovulists" but "animalculists" and these said that it was Adam who had all these generations within himself; and the two schools combated one another. Then came Haller who said there was no need to quarrel over this, but one principal sufficed which was absolute truth, and upon which it was enough to rest, that is, that the beings exist as a whole, and grow as a whole, in the whole of

their body\_\_ all the parts of the body grow together. It is not true that one part grows first and then another, but the little being that grows is already complete. His phrase was this: "Nulla in corpore animali pars ante aliam facta est, et omnes simul creatae existunt!" All the parts exist created together and developed together and no part can be formed before another. This was the principal upon which Liebniz who is still remembered be many as a great philosopher, but forward a theory upon the soul, saying that it must also be the same of the soul. And this explained the pre-existence of souls, especially in man, since the souls of the beings existed within these germs that had yet to develop, but which nevertheless already completely existed; and as all the parts of the body already existed so also the soul; hence the soul and body developed together every time that these beings could have the liberty to develop.

It was in this epoch that Wolf, a German of great merit studying with the microscope the development of germs, found that the germs began with any undifferentiated cell, without special characteristics, which cell divided in two, and then these two cells again divided into two becoming four and so on. Thus a little leaf was formed from the cells and from this leaflet came two other leaflets of cells, then came special organs. First certain organs and tissues are formed, others came afterwards, and also the differentiation of the successive tissues. These results of Wolf were published by him under the name "Teoria Generativitatis" in 1759. The scientists of the time all had the microscope and could all repeat the experience that was illustrated in this classic work. But they rejected the idea as absurd, simply saying, this is impossible, what you say is absurd, for no part can be made before another, but all the parts develop together. Hence what you say is absurd, but of the contrary our preconception is true which cannot be discussed. But although you say that the facts are otherwise, and say that with our eyes we can see the germ which divides in two, and this can be reproduced; since this contradicts the idea that we have it is absurd. But after 50 years, a man of little merit, an aristocrat, became aware that it really was so, and published a little monograph that cannot be compared with the greatness of Wolf's work, in which he stated this fact, that from the egg germinative

leaves develop, and everyone immediately believed him, and found it naturally to take eggs and make them germinate, and observe them with the microscope, since all could do it. First in Germany and then in all the other places, in Russia in the whole civilised world, these studies were made and have given an enormous progress in recent times. All said: it is true, we have eyes, instruments, and the germs that develop and all can see. And it was fifty years since Wolff had published his work and he had died unknown and in misery when all men took up his books, admiring them as great classic works of science.

So one might say that it was not impossible that men should see but that the moment had not arrived; 50 years were needed of a mysterious inner maturity for men to say "We have eyes, the microscope, germs, let us look!"

These examples could be multiplied to infinity. But a few are sufficient to open a road of research in this sense, to demonstrate that when we wish to educate the intelligence of children we must not take the road which we follow today of encumbering the minds of the children with a quantity of things that we have not tested as to their truth. We must not, above all, give it without knowing the laws of formation and the laws of time in the construction of the mind; for history shows us that men owing to the encumbrance of their minds, loaded with preconceptions founded upon imagination not based upon truth with a medley of ideas coming from reasoning which has not followed a rigorous logic of pure construction upon the truth, these minds so constructed not only do not give progress but are an obstacle to it similar to that of ignorance. There are discoveries which were hindered by absolute ignorance as by this species of culture; and men who are absolutely ignorant have sometimes been less blind than those overcast by a kind of veil which one might say is the veil of intellectual vanity. All these scientists of the times, those who declared against the meteorites, against the theories of Wolff etc. were nevertheless great men, whose celebrated names we still remember; they were great scientists from whom the masses drew inspiration, and they were the directors of the thought of their time, authors of great literary and philosophical works, men whom we call greatly intelligent. Neverthe



less they did nothing but amalgamate a thick cloud by which all men were blinded and progress could not advance.

We can therefore really defraud man of some powers which he has within himself, which are powers of an intimate life that manifests itself in certain forms, for example, that of simplicity. And we, trying artificially to make a quantity of things enter the mind which we do not know whether are truth or darkness, can kill these qualities which provisionally sometimes live in some men. Such see a simple truth and with this can often destroy the clouds, like the sun which rises in the morning. To cultivate as a sacred thing these intimate forces in their simplicity, not to disturb them, to act so that man is not defrauded by us of the treasures that nature has given him; this is our task, since the intelligence then forms of itself. That power of reasoning so simple is to be a beacon light to the voyage of mankind, every mind can have, so true it is, that all say before the discovery "How was it that we never thought of this before? Why was it not known?" But in the meanwhile men were not only enfeebled depressed, but often went to their death, lost land, lost all their strength and their riches, since they were not able to make this little reasoning which as soon as heard seems so simple and within reach of all, as though man should say, "I was hindered by something, but if there had not been this to blind me, I should have seen it since this which is seen is so simple this reasoning is so easy that every man could have made it." It is not as when we read the Divine Comedy or see the masterpieces of Raphael. Then we say "I admire this great work, but should never have been able to do it."

But before all the great discoveries that have brought benefit to humanity we think the opposite and say: "How simple! How ever could we not have thought of it?" That simplicity which allows us not only to reason simply but to believe, that which we call the simplicity of children who easily believe things and which we almost depreciate as an inferior quality, priding ourselves on our powers of criticism when we see instead that in the history of thought, where faith is lacking there lacks also a power of vision, so that even a stone is not seen weighing 10 kilograms, and if one cannot see a stone weighing 10 kilograms, how many things do

we not see with eyes so completely blinded\_ that simplicity is all . That saying of Christ: "Ye have eyes and see not." is said of the spirit, but we may repeat the same thing for the intelligence; and the same comparison the same law may be repeated throughout the psychic life with regard to intellectual truths. When for example, in the Bible it tells of the resurrection of Lazarus, dead for four days, it is added, "Many of those present believed" This "many" is striking; One might say, "If the fact occurred, all ought to have believed." But no, many did not believe for all were able to see. To see a fact of this kind it was necessary to have a special disposition, and who did not have this disposition did not see; and I repeat could not see, be it even a stone. There is therefore something, an inner attitude, that goes together with simplicity in reasoning and might be called an attitude of faith which is necessary in order to see, and it is not enough to have the eyes and the senses to take\_ this is all a material work\_ but another intimate education is necessary in order that the senses can see, which it is difficult to know how to define, except that it resembles faith and lies undoubtedly in a state of simplicity ingenuosness that must be deformed by our work of aggression made from outside so that men can advance more rapidly in their progress.

It may also be noted how a species of maturity is necessary of an inner organism, by which maturity alone can certain things be seen, and before the arrival of which cannot be seen.. For example, it is useless to say of a thing: this is so and so a thousand times, when the person is not ripe to see it; it is necessary to await the time. The man will see when the time comes, since it is not only necessary to have an attitude of simplicity, but it is necessary to be mature to see, and this maturity must also be respected, since no one can give that which does not exist. And if we see that over the multitude of the intelligent the most material and evident facts have not been sufficient to make those see who were not yet ready, how can we insist that the immature child can understand that which we wish to teach him? No: wait for this maturity to come: this is a principle for keeping sacred this force of the intelligence considered as a whole.

And for the rest of the positive sciences, of the time, those who have been born after the lamps of simplicity, and have formed the

corporation of men who have continued the work, all the scientists of the positive scientists who have developed physics and chemistry, application to mechanics etc., and all the discoveries of biology etc., all this immense category of researches has been prepared, as I have often said not by a content of science but with a method of simplicity, ridding the mind of preconceptions, patient in observation, ready even for martyrdom. This is the preparation of the intelligence of to-day, and the difference between the ancient and new preparation corresponds to the difference between the old and new civilization. This scientific direction leaves men to be simple and serene observers, to distinguish the smallest things and not depreciate any, making a treasure of the microbe as of the ray of light which is outside the orbit of our vision, seeking the hidden forces, taking all that appears least; like men who should go seeking hidden things and stripping their minds so that the truth from outside can enter. They educate their minds to a severe logic, by which they never dare to pass sentence but give a contribution with great modesty, never imposing an idea, but only offering the others a fact, the spoliation of one's self, modesty, humility, patience. It is a sensory preparation by which the individual can see things, and the readiness to believe all that which the others have seen, even if it seems impossible, since the man following this path of simplicity finds in it such great things that nothing can seem impossible to him, but all credible, even that which seems most extraordinary. Since it is upon this way of simplicity that putting one's self in touch with creative nature which is great and miraculous shows that the greatest things are in reality the most simple. Now if we live in these times and enjoy the fruits of this preparation our duty is to give men the preparation itself and put them upon this road, since it is with these simple things that the average intelligence can give its greatest contributions. Certainly with this, we do not make Dantes nor Raphaels, nor procreate men who make great works of art. The man who has a great artistic genius breaks through the law and finds for himself the possibility of creating. But these individuals who form the average, and yet give these great contributions, have not they perhaps done a greater work than that of Dante and Raphael, creating with this collaboration of humble, modest, patient men a work which is that of



civilization and the happiness of men, social progress and the transformation of the world, as if they had been able to take the divine ideas and associate them; making a great mind, a great work of noble creation? It is not a great ideal to think that even if we cannot be the authors of a great artistic work, we can yet be contributors to a great universal construction. And we know that we can contribute only with an act of faith. "I believe," because I have seen it, I do not combat what you say, I do not want to add myself to a multitude which hinders progress. I believe and I also will observe. I only seek the truth, and follow that path which seems the way of humility, intellectual humility, along which man can exert his greatest strength, which is that one might say, of utilizing the work of the creation instead of putting their working in an imaginary reasoning of their own. This is what at most we can give the men of the future; and this certainly indicates a path for the education of the intelligence of men who will have to carry on our civilization.

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Lecture V

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Lecture of June 2nd. 1914.

Writing and reading at the childish ages of four to five years which is then perfected towards six isonemight say, the conclusion, the part perhaps most interesting of this method of education. It is also the part that has undregone the severest critism, since, as all know, the teaching of reading and writing that is in general, graphic language, to little children has been excludud from the common pedagogy; and it seems a rational conquest that of teaching this to the children as laten as possible. And the age of seven seems too yiung, and many wish to begin the teaching of grahpic language at 8 or even later.

Naturally in this judgement of the age in which the child should begin to write, we have no guide but a preconception, an abstract reasoning; there is no positive guide of experimeng, to specify without question, without any possible objections, the age in which the child should learn to read and write.

Now, if in this method which has followed a line of experiment, the conclusion has been arrived at that until the children can write, this fact must be worthy of consideration, of discussion; since it has certianly not come through ignoring the conclusions of present-day pedagogy..

In ordre ti give some explanation of thos fact, we must begin by giving speaking of the development of spoken language, which is quite another thing from graphic language, since in this method, writing is not a mere fact of teaching, but is almost like a physiological phenomenon that is produced. And there is a close analogy between the development of graphic language and the development of spoken language.

One may represeny spoken language as a line which laiving the external sense organ goes to the auditory centre of the word, then to the

word, then to the motor centre, and ends in the motor organs of the word. One might say represent spoken language like a perfectly true reflex, like the reflexes which occur when the child burning his hand in the candle draws back his hand—that is to say owing to a sensation movement follows. This is one of the most admirable phenomenon that we have in human physiology.

Suppose that, this point represents the the sense organ, which would be the ear, this line, the centripetal nerves that go to the brain centres, and that this point represents that which is affirmed to exist by the physiologists, that is the existence of a memorial centre in the cerebral cortex, a centre for the auditory memory of words, so that when the individual hears a word he can remember it, retain it. And all the words he hears can be retained in this centre, which is a centre for the words heard. This auditory centre for words really exists from the anatomical and physiological point of view—since if, E. G. part of the cerebral cortex is destroyed by a haemorrhage in that part which is asserted by the physiologists to be the auditory centre for spoken language, one can suddenly lose from one moment to another the memory of words, so that an Italian could forget every Italian word and would find himself as if in Italy for the first time. Thus there is also a motor centre for the word, since also here, if a haemorrhage occurs in a point of the cerebral cortex that is discovered to be the motor centre of the word, the person becomes entirely dumb. Hence we speak almost concretely when we say that there exists a centre for spoken language.

There really exists a point of the cerebral cortex which would be the auditory of the word, and from the motor centre nerves depart that innervate all the muscular organs that represent the external parts necessary for the expression of the word. These organs are multiple as you know, but they may be separated into two principal groups: the vocal cords which produce the sounds, and without which no word could be spoken; and the other part which determine the articulation of certain sounds composing the word; the tongue the palate the teeth, the uvula, but especially the tongue, organs which serve to pronounce the single sounds.

All the organs of articulate language that permit the pronunciation of single words sounds are a complex of most complicated

muscular organs. Muscles that require the finest among the co-ordinated ions (motor) possible to man. They are the motor co-ordinations)) which render man, from the point of view of movement, distinct from all other animals. Such movements and such delicate coordinations are certainly the most difficult and complicated that are known in physiology.

And these movements which are so complicated no one teaches the child; who could direct these muscles? Who could control the vocal chords in that way, who could teach the child when he begins to lisp precisely how to place his tongue?

We see, instead that this complex phenomenon develops by itself, only by one sensorial fact; the child must hear the word pronounced. It is by hearing the words pronounced that man learns to speak, just as if a stimulus, a reflex established by nature produced it. This is expressed by a word which has a somewhat abstract meaning--heredity. It is by heredity that man acquires this facility of being able to make these movements, by hearing the sounds of the words. So true is this that those individuals that cannot hear the words spoken do not speak. When hearing is absent, as in the case of deaf-mutes, and it is desired to develop spoken language, a great educational work has to be done. But this immense educational work, which the educators of the deaf-mutes know so well, renders success possible owing to the fact that there exists in nature the spontaneous possibility of this difficult co-ordination of the muscles. If in nature this did not exist as a spontaneous fact, the effort would be vain which the educator makes to educate the deaf-mute. Now this language in children does not develop from one moment to another, like a miracle, but develops little by little. The child E.G. begins to produce sounds that, one might say, the fundamental sounds of language. The mother instinctively this development of the child. For example, when the child is very small and the mother wishes to attract his attention to the single sounds pronounced, she says--"ssss - sh-sh-sh- and the child is attracted by these sounds and begins to make similar ones syllables etc.,.

At a more advanced stage the child pronounces syllables, coupling them together E.G. tete, mama, making little words that characteristic of infancy. For the most part these words begin with labial sounds? 35

Mama is the first

Mama is the first word that children pronounce, from which has come the name of the mother, then finally the children begin really to pronounce little words, E.G. mam, as we have said, papa tete, bebe. These are the first beginning of a muscular work that is organising itself, and which is helped by repeating the sounds.

Now when the child says papa n mama, he certainly does not wish to speak, to express an idea, but we only have that this mechanism begins to take shape in his organism; and this fact is so evident that the mother herself clearly recognises this attempt at the coordination of language, from the child speaking. And if one asks a mother "Does your child talk yet?" she answers, "He says papa, ~~mama~~, but does not talk

The mother understands that the child pronounces these words as an exercise, not because he wishes to indicate his father or mother.

It is instead another period of his development, that in which the child tries to pronounce the names of objects which his mother teaches him. Then E.G. one hears the mother say "He speaks now, he says Papa and recognises his father," while before he said papa but did not speak. That is to say, this word has a meaning and this another form of language. One might say that that mechanism, which of necessity had to produce sounds, now serves to enable the individual by means of these sounds to make known an idea. And so together with the words there is the exact perception of the object to which the word refers and the child comes little by little to enrich this kind of vocabulary. This is the mechanism that is formed; the child enriches a vocabulary of terms, always acquires a greater number of words. The tendency of normal language is that of attaining the perfect pronunciation of the words. The first lisps of the child are evidently only a period to be passed through to another period in which language is more perfect, and when the mother pronounces words that are heard by the child, the child repeats these words, also recognising the objects but does not pronounce them well. Here is a whole period of infantile language which has characteristics of pronunciation all its own, and which is studied by physiologists as a normal fact which must necessarily be passed through the more quickly by the child. It is evident this period will be passed through the more quickly the more the child

hears the words repeatedly pronounced.

While if instead the mother or nurse as formerly happened when she heard the child speak imperfectly also repeats the words imperfectly she imprints what are only difficulties of the formation of a very complex psycho-physio-muscular mechanism. This person gives stimuli that instead of leading the child to surpass this period, keeps him in this transitory period. Thus if the child hears imperfect words pronounced by the mother as he pronounces them, he will always remain, or will remain for a longer period in that imperfection. If the mother instead knowing that this is a transitory thing, a characteristic of infant language, in the course of formation, pronounces the words in the right way, she would be ipso facto to provoke the establishment of the phenomenon in its complete development. If she does not pronounce the words well, she comes instead to arrest this development. There is instead an initial period in which a mechanism is formed, the mechanism of articulate language, which is very complex. But it is an acquisition of the memory of words and an acquisition of the possibility of pronouncing them. And this mechanism develops slowly, labouriously, and individually characteristics, so that one might say E.G. that a given child began to talk at a given age, and perfected his language in a certain way, and another has begun differently, and has differently perfected his language, since every individual, although following in general the usual and complex laws of development, has his individual characteristics, so that one could not say "Be quick and learn to speak, since by such and such a day you ought to be able to speak well". This does not occur to anyone, but we know that the child generally at a certain age has learnt to speak, although perhaps taken a certain time, and has succeeded more or less well. This is an individual question.

Remaining in the scheme, one might say that at a certain time epoch speaking is begun, pronouncing the words, and that in a certain epoch language will develop. This period of the development of the mechanism of the word is something profoundly different from what the physiologists and the psychologists call the "dictorium".

The elevated part of the language of man, the logical language

of man, is the language that expresses the more or less elevated and complicated thoughts that the language of man can express. They are two things united together but profoundly different, since one might say that the word is the patrimony of simple language, it forms the interior dictionary of man. A deposit of words is formed within the mind that can be pronounced, and the human intelligence that develops little by little makes use of these words to express itself. This is the development of the intelligence and is another thing, however closely united to the mechanical development of articulate language.

Little by little as the intelligence evolves, the individual can express himself, but to express himself he has need of words, and these must be deposited in his organism, as much in the auditory faculties as in the ability to pronounce since otherwise he could not succeed in this expression. The development of the intelligence and of the ideas is something closely united to the words.

Therefore, it is really the development of the intelligence that makes use of its own language. There exists one part of language, I repeat, that might be compared to a vocabulary, and then there exists all the development of the intelligence that uses these words, that might be compared to all the compositions that can be written, from a phrase, an inscription, to a romance or a poem; which expressions are also language, but represent the production of the intelligence, using language to express itself. Nature then proceeds; first the mechanism and when the mechanism is developed there comes the fact of the intelligence in all its greatness developing little by little.

It is not for ex. that man first develops all his intelligence to the extent that he can express great thoughts, and form the content of the dictatorium, as the psychologists say; man does not arrive at this point without yet being able to pronounce a word; nature does not act so that man first develops his intelligence, and when he has many ideas to express, cannot begin to speak, nature does not reason thus; it is useless to give language to man when he does not understand things, let us wait till he first develops his intelligence, and then we will give him language. In such case we should see intelligent people wishing to express a need, an affectionate thought, and find themselves only in the

period of s,s,s,s, sh,sh,sh, t,t,t ma ma, etc; the period in which the dumb find themselves for ex. when they begin with a terrible artifice to be able to lisp. So we should find the intelligence of man which is developing shackled by this obstacle of the difficulty of expressing himself. How does the process occur in nature? When the intelligence puts man into the position of expressing his thought, this man possesses a language by which this thought can be expressed; he already has the mechanism prepared. And little by little, as the development of thought and expression proceed, the mechanism also perfects itself in two senses; in the perfecting of the pronunciation, and in the number of words in his vocabulary, which always becomes richer.

I therefore insist in saying that there is in nature a purely mechanical, preparatory period in the primitive intelligence, which has the character of a purely reflex, by which a movement responds to a sensation, and which is the preparation of the material. This is the first part, then the intelligence developing expresses thoughts utilising these words and always enriching the vocabulary with new ones. It is not the opposite, that the intelligence develops first and then the words.

Now I said that in graphic language, in written language, we find an analogy with the development of natural articulate language. Let us return to the diastaltic arc. Here also we might represent this language by the same figure, in fact, writing we might say comes from a visual sensation; we see the written words and form in the brain centres the memory of their visual appearance. This is also a fact demonstrated by the physiologists, since it is known that haemorrhages that have damaged a certain part of the cerebral cortex in which the visual images of the word are fixed, produce this interesting phenomenon; the person can no longer read, he sees the writing in his own language but cannot read it, just as if one of us not knowing the chinese alphabet, should find ourselves before a writing in chinese. Hence, there is a centre for the visual images of words, a mnemonic centre of written words. And also there is a centre for writing.

8

Here also we see that pathological facts occur in persons afflicted in their cerebral centres controlling writing, who have no longer been able to write and have had to recommence from the beginning, learning to read and write. The other end of the arc represents the external organ of movement, the hand which writes.

There exists therefore, a complete parallel between the two reflexes. For written language, we have the visual centre, the visual images of the words, the motor image of the written words, the sense organ, the organ of movement,... Also, the mnemonic centres relative to the sensations and the movement.

But the two facts of articulate language and graphic language do not correspond from the physiological point of view, since it is not owing to a fact of hereditary that, observing the written word, we write it; or at least it is not so natural as in the other case. In the former methods, however, for teaching writing, this root has been followed of showing the written word and then having the hand move to reproduce it.

The movements necessary for writing are less complex, and simpler than those necessary to articulate words, but although they are simpler there is not this correspondence as direct as a reflex. In fact, men write owing to an acquired fact and not by hereditary. It is a voluntary acquisition of man. But we can prepare the peripheral organs so as to make this mechanism of graphic language as far as possible resemble that of spoken language, and we can do this by preparing the external motor organs artificially to obey the corresponding centres. In short we can prepare the hand from without to follow the movements which are the essential, primitive, general phenomena of writing. For ex., the management of the instrument of writing is the possibility of following design of every single letter; in fact of motor physiology that we can prepare separately, which does not constitute writing as a whole but which is an element of motor mechanism that do not exist in nature, but which we can artificially produce. It does not exist in nature, as for ex. the possibility exists for the vocal cords to emit sounds, and for the tongue to articulate. The movements of the hand in writing and the possibility

of tracing signs does not exist in nature, but these two fundamental facts which are analogous to the work of the vocal cords and the organs of speech can be produced apart and fixed; so that when we have done this we have almost completed a perfect parallel between the natural fact and this artificial fact. The physiological path in fact, is prepared of writing.

When we have the child touch the letters of the alphabet, we have him see them and at the same time touch them; that is we have the union of these two facts of this diastaltic arc the sensorial visual fact and the sensorial motor fact, so that little by little as the child sees the signs he can follow them. He does not write yet; it is the preparation of his muscular mechanism that we seek to provoke in the child and while we do this, we also unite these two mechanisms together, we hold the two languages strictly in union. In fact, when we show the letters to touch and tell him for ex. this is O, and we produce this mechanism of writing language, ^{but} unite it at the same time to all the mechanism of articulate language, for we say, "this is O," and this is the auditory image of that sign, so that little by little as the diastaltic arc becomes constructed this fact, that might be called a new artificial acquisition of a complex mechanism, becomes united to the artificial mechanism of articulate language. In fact, the child, when we have said; "this is O," and have made him touch it, repeats, O.

Spoken language thus becomes united to written language and both mechanisms evolve together.

We say to the child, "This is I, this is O." They are the visual and auditory images, the two sensations which go to the cerebral centres. Then we say to him; "Touch the letters!" and here we have the formation of the motor image. And then again we say, "What is this?" and he answers "I and O." the articulate expression - the harmonious and united development of the two mechanisms that interpenetrate. The fact of the vocal cords that exercise themselves is a general fact which does not refer directly to this mechanism, it is a fact that exists in nature; the vocal cords of the child are able to emit these sounds, and it is a general fact that does not really enter into this precise

mechanism, and is like drawing and holding the pen, that has to be done by the hand. They are necessary and fundamental facts united to writing, but they do not enter directly into this mechanism and are prepared apart.

One might almost say that that language which permits the establishment of graphic language as a physiological fact would be perfect from a certain point of view. Many distinctions are made between languages and the distinction is already made, and the distinction is already made between those languages that are phonetic and those that are not phonetic; but here one might also add this other quality, which would be a physiological quality, not hitherto considered; languages which allow the individual to establish them in their development like physiological facts, the graphical part developing in a way parallel to the physiological development of spoken language. Writing becomes a natural phenomenon similar to the development of articulate language. Here is another characteristic of a language. I repeat that this characteristic was already known, but under another point of view, not under the point of view that it facilitated a work of humanity, or that signified the identification of an artificial process, almost with a natural one.

Now in the phonetic tongue we have the possibility of this fact, of putting the learning of graphic language in a position in every way similar to that of spoken language. In a phonetic language it is enough to make the child hear the fundamental sounds and have him perceive the difference of these sounds in relation to the sight of the alphabetical signs, for the union to be possible of these signs into a word; just as the union is possible in nature of the sounds which are first pronounced separately into a whole word. That is, we have in a phonetic language the possibility of recognising in an absolute way the sounds composing the spoken word, and of constructing the graphic word from a recognition of the single letters, which correspond to the sounds pronounced. This is just what our children do, who having the possibility of analysing the sounds composing the spoken words, and being able to recognise the alphabetical symbols which correspond to these sounds, are able to compose the written words. It is something that comes by itself,

spontaneously. It is only by this property that the child can recognise the signs which corresponds to the sounds, and is able to pronounce words. Now when the child can pronounce the words he recognises the alphabetical signs that correspond to them, by this fact alone he is able to write the words.

And this phenomenon evolves little by little, when the union has been established between these two mechanisms. The phenomena of the spontaneous development of writing is made possible by this, since the child having been able to fix little by little the visual impression of the letters of the alphabet in relation to the sounds, and being able to reproduce them with his hand is suddenly able to write.

And this is not due to an external teaching, but more an internal development, due to the fact that these new mechanisms have been attached to the fundamental ones of nature.

Specially for phonetic language this mechanism of written language permits us to give a great help to the perfecting of spoken language, since it would be very difficult to make the child analyse the single sounds of the word to perfect its pronunciation. For ex. in the popular schools where the children come from houses that have a very imperfect pronunciation, also having defects of dialect, the school can much to perfect the spoken language.

In short, the help that may be given to the perfect development of articulate language becomes very easy, since we can almost take the word which the child must pronounce, and take every particular to develop and correct it without the effort on the part of the child which we make in correcting defects of language, exercises which are very difficult even for older children. Little children instead, when we show them a sign that means a sound or several such, we can build up a word and practise the single sounds and render conscious the complex sound of a word well pronounced.

So that one might say that these means for the development of mechanical graphic language permits us to bring out little by little all the mechanism of articulate language and to perfect it. While we establish this mechanism we necessarily come to perfect the other. When the first mechanism of written language is established it has necessarily

come to perfect the other. When the first mechanism of written language is established it has necessarily perfected the articulate language, it is a help which the school can give with method, to the perfecting of a word.

Now the first time that the child writes, it is always for an intelligent reason, because he wishes to express an idea, but he writes for a mechanical reason, similar to that of nature. He is mature to be able to produce sign, corresponding to the sound, and so he writes. And in fact, in the first days our children wrote the strangest words, even foreign words which were dictated, and of which they did not know the meaning. They wrote them because this mechanism was forming; for ex. the word Trafalgar, which these children wrote because the words were dictated without in the least knowing their meaning, but because they could reproduce the words they heard pronounced by a mechanical construction.

Now we must not confuse this primitive mechanical fact, this establishment of a very complex psycho-muscular phenomenon with the fact of using this primitive mechanism for intellectual purposes. We must distinguish a lower part of writing representing the establishing of the mechanism of writing, from the utilisation of writing for purposes more or less intellectual, for the expression, that is, of thoughts. This will come when the individual feels the need of expressing his thoughts. Then he ought already to have at his disposition the mechanism of a graphic language. So that when the child feels the need of an outlet for his intelligence he will not need, as happens to-day, to begin laboriously to prepare the mechanism of writing. When he feels the need or really has need, being the son of civilised man, to express his thought in writing, he must have the means of doing so at his disposition. We have for ex. In our schools, children who could write a letter, give a little description, etc. and they find great pleasure in doing this since their intelligence is sufficiently developed for this, and in spoken language they can well express a series of thoughts. If then they should have to make strokes and only then patiently to prepare, too late; we then come to drag man back in his possibility of progress; to hinder him so harshly, that what should be the most magnificent expression of his intellectual life becomes a great torment of his development, one

of the hard memories in the life history of civilised man. So much so that we wish to avoid teaching little ~~tea~~ children to write, since we say that these torments must be spared children in their early years, and given when the forces are more developed, as if it were really a case of torture! And in fact, it is a great torment, as it would be a great torment for the intelligent man not to have words and not to be able to express his ideas. If instead, we follow the path of nature, we find quite opposite phenomena of feeling; a series of expressions of joy in acquiring these great qualities which are the means of progress of civilised man.

As perhaps a new chapter is formed by this mechanism, teaching of writing at that early age which is shown physiologically adapted to develop it (between four and five), so also I believe will form a new chapter, the manifestations of the child in relation to these conquests. In fact, the child shows himself profoundly moved to the highest degree, so that the history of the development of writing for our little ones is, one might say, a story of passion, a new chapter of passionate history in the development of man.

The first time that spontaneous writing evolved, it was accompanied by transports of joy on the part of the children. Not only did it not seem a torment, but it was like a new life that was sensibly developed from within, as if something new was really born within the soul of the child, as if the child really felt that he had made a new great conquest within himself, and was full of enthusiasm. The children no longer appreciated anything else after writing had come. All that which had pleased them before, like the exercises of the senses, recognising known things in the environment, all this was forgotten in the frenzy of writing as if they really had the consciousness of having made a great conquest. In fact, writing is certainly the greatest conquest of the intelligence of man. This written language is something which supersedes spoken language, since spoken language is much more limited than written language. Spoken language is heard at little distance, and even if heard at great

This written language is something that supercedes written, since spoken language is much more limited than written. Spoken language is heard at little distance, and ~~is even~~ at hand even if heard at great distances, as to lengthy means of the telephone, it nevertheless passes with the man, but writing continues beyond the life of man. So that we can keep the memory of ~~men~~ of past centuries by means of writing, and to-day writing can again pass far beyond the other manifestations of the language of man. That is, it renders continuity possible to the history of man. There are for ex. objects of mineral life, which remain through the centuries, and mountains remain in that way. On the surface of the earth we always find the same creatures living, since they remain by reproduction; but the history of man, the history of the things man has done is transmitted by written language. It is by written language that man can hope indefinitely to prolong his life. The great deeds of men are always deposited in this great supercreation of humanity, which is a language, which might be called eternal in comparison with the frail language of speech. So true is this that man tends instinctively to perfect written language in a superior way which has to remain as a document of him, and written language is always more elaborated than the spoken.

Now it almost seems that the child is stirred by this strange fact that occurs in him. And even the love of the alphabet is a love that is manifested in the child, and there have been children who have taken the large cards with several letters on them and have carried them in triumph, others marching behind and applauding these new banners. They began to feel the principles enter them of a new language and their enthusiasm was unbounded, and they became still more enthusiastic in mechanically reproducing words.

One of the greatest joys of the child has been that of discovering that the ~~read~~ word has a meaning. When the children have commenced to put together the sounds of the written words, pronouncing them up to the point of understanding their meaning it has been a great event. They could hardly believe this phenomena which seemed so singular, that a sign covering the paper could express an idea.

They were so sensitive to this fact, that the first words read caused a deep commotion, like the greatest discovery which the child could have made. This is why one sees the children take these slips of paper and go into a corner and try to read them - quite in silence without anyone interfering. They could receive ideas and these ideas were no longer given by persons, by pronunciation, but by these mysterious papers, which revealed a thought by signs! And little by little as they discovered that more words could give complex ideas, then interest increased. In one school in which the children were rarely given anything new, it happened that a child realised that a long series of written words meant the story of a fact. This caused him so much wonder, that he called his dearest friend and said, "Do you see this piece of paper? Well, there is a story in it." and his companions could hardly believe him until he read it softly, and the other child verified that there really was a story, and when all his companions little by little came to realise this, they anxiously searched the books at home, to find if there really was a story in them, and since some children were not allowed to read, they tore out a page and brought it to school. It was a story, a poem, etc. and the children thus became little vandals, without respect for the books, but merely with a great ardour to have these documents of this extraordinary phenomenon - the representation of a whole story without anyone speaking. This new conquest of the intelligence constitutes the history of the development of graphic language in a renewed humanity. It is a story of joy, like the story of all conquests; it is a story of enthusiasm, as is every story of the birth of new life. These children feel a new life within themselves, something unaccustomed which they did not before know. The story of the development of writing in the children is not a history of torments, but it is the great romance of the great story of human life, which creates something above what is created by nature; it is the language which remains a document, enriching and dilating the paths of men. Who speaks of learning to write as of a thing which can produce fatigue in the child, certainly cannot speak of the development of spontaneous writing; for the study of this development is the study of the development of energies, and no fact has been or could be more evident than this. I believe that there is a new chapter of psychological to add to that which we call the story of man.

As the development of spoken language forms part of the development of the child, in the same way may form part of the development of the written language. And the history of the development of written language will be that represents the conclusive fact of the first period of life. In the first days that I witnessed the development of this phenomena I wrote some thoughts that, according to my imagination could be the thoughts of the men of the future when they wished to express great feelings, and they cannot express them better than referring to the story of childhood.

I imagined for ex. an engineer, who after long studies began to handle the instruments of his profession, like a person beginning a work, a social work, after a great sacrifice - thinking that the future will bring some great surprise, that his name will become illustrious for ever, and he will be remembered after his death. I imagine this engineer writing to a friend thus, "I took my instruments with the feelings of a child who, for the first time grasps an iron geometric inset, and with great pride traces the first geometric figures on a white page. Perhaps I too, like him, have taken the first step towards a more distant conquest, not closely allied to my profession, the conquest of a new language which may survive me."

A company of soldiers going to battle might tell of it thus, "We marched forward in close ranks, carrying the standards in a delirium of excitement like children who carried aloft the card of sandpaper symbols, almost realising that all their educated senses had attained the highest victory, the language created by man."

The man who for the first time understands the soul of another might express himself in this way,

"Yes, I understand your soul; it was as sweet a thing for me as the joy of the child who reads the first word." That which before was a mystery, revealed to me a meaning, awakened a reality!"

This may perhaps seem puerile and exaggerated, but sometimes we say "I have grown out of childhood, I am not a child," just as if the essence of childhood lived about us. Spiritual men instead, when they wish to express the great exaltation of the spirit that is elevated and made sublime to the utmost limits, compare themselves to children and say; "I became like a little child." Or, wishing to speak of the glory to come it is said, "Thou art

must seek the way of little children." Feel what a child is; he is the being in whom the greatest things are coming to birth, in whom the greatest conquests of life are made. What would be greater for the adult than for the thought that a new life is being born within him and that it continues, and the greatness which has begun increases? This is why the comparison is great, because only in the child exists this great fact that a new life is forming within him. And the adult man when he feels the new existence that is born within him says; "I feel the child born within me."

Life is born in purity and in the great possibility of conquests, of transformation of growth. This is the child, and this, that is, "The child of the spiritual man, must be the child of the whole of life - also for the intellectual man. As the child has been for the elect of spirit, so he must be for the elect of the intelligence. When man is able to know something great, and express something great that is born in him, revivifying the hopes of the future, the progresses which he feels within his intelligence, he has to express himself, to go to the memories of childhood, and say like the mystic, "I have felt an experience which cannot be compared other than to the experience of the growing child." One of the greatest memories of the child is certainly this, of the conquest of the grand external language of humanity, by which this fact of the psychic development of the little child is a great event in life, and serves to help in adults, as adults and inspire us, and ought to give us all, to poetry, to art, to literature, a new capacity, as it does to religion. Man must go to the child to recognise his greatness..

Section Y Lecture of March 27th 1914.

For private circulation among the members of the class only:

This is the first of the series of lessons version of Dr; Montessori's lecture, being the translation by Mr. Claremont and Miss Watson, of the report taken down viva voce, Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorized for the personal use of members of the class;

This is the first of the series of lessons illustrating the Biographical Chart. I do not, however, in these, mean to confine myself to a simple illustration of the Biographical Chart but, rather, since these three days three days are apportioned to develop the subject-matter along three parallel lines, I reserve this day for all those subjects, many of which are already well understood, - that refer to the physical aspect of the child. In fact, a large part of the Biographic Chart refers to anthropologic researches on children and also to points of Hygiene, etc. As there already exist on this subject, branches of science which are far advanced, I need not do more than give certain indications. If, instead of a brief course, an organized school of preparation existed, I should then wish the teachers to make a direct study of the growth of children, from birth, for example, up to the highest age they reach in our schools, six years. This direct study of the child in its first years, especially from birth up to three years, might form part of all those biological studies which it would be well for the teacher to make in order to prepare herself for a scientific direction. By these studies, especially by the orderly observation of the growing child, one would acquire, not only a series of ideas about growth, but also, - (what I say will seem strange, but it is the part which is fundamental for us) - but also a faith (one cannot say "faith" because it is blind, - nevertheless I say "faith"), - a belief that the child grows of itself. You will say that you know this: never mind, - to know it and to acquire a profound conviction of it are two very different things. Now one cannot have the evidence of spontaneous growth without observing the physical development from the beginning.

Lecture W

For private circulation among the members of the class, only.

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Lesson of June 13 1914.

One of the objections that are made in relation to this method of education concerns the development of the will. It is said; if the child always does as he likes, if he simply obeys his impulse, what will he be when he grows up and has instead to follow his duty and not his impulse, has in fact, to conquer his impulses? To this objection, I have here and there during the course, since psychological questions are inter-connected with one another, psychological impulses being manifestations of the inner personality as a whole. Hence one manifestation is strictly connected with another, for which reason it is sometimes necessary to go back to the same question, since one cannot treat of one subject without entering another. I believe that the objections that are made upon the development of the will in this method, are based upon prejudices that we hold in regard to the development of the will and in general to the education of children.

There is a fundamental idea in all the development of the psychological part of this method, which must be kept in sight to explain all the particulars. This is that all the manifestations are in relation to the complex development of the inner personality. We must answer objections not with analysis but with synthesis. We must take the synthetic fact as aim, and if possible describe it, since that includes all the answers to the particular fact.

Let us take a physiological example that is very easy to understand. We will limit ourselves only to one part of the manifestations of the will although this part in its entirety includes almost all; that is the external manifestations.

Let us consider the movements which we call voluntary which are

different from the reflex since reflex movements do not enter into consciousness, while voluntary movements are conscious. All the movements of the striped muscles we call voluntary, since when man begins to have consciousness, he moves consciously.

How do we organise our voluntary movements? With a long exercise. Every time there is a conscious movement, there is a voluntary movement, and the development of this comes from a continued exercise made according to the directions of the intelligence; so that little by little as the intelligence develops, and these exercises follow one another with a continuity that is the continuity of life itself, little by little as these external manifestations occur, voluntary movements develop which finally reach the complexity characteristic of the active life of man. Physiologists know that there are muscles which have opposite functions to those of other muscles, and they speak of antagonistic function between the muscles. There are muscles for example which make a limb move in a given direction, and there are muscles which oppose this movement. Thus they speak of muscles inhibitive of others. And so one might speak of conflict between muscular movement, conflict which, in fact, is a harmony of working between muscles which have opposite functions. And it is from the perfecting of these muscular harmonies that comes the perfecting of voluntary movement. Such a perfection cannot be obtained unless the striped muscles of the body are allowed to function in response to intelligent will. No one commands the inhibitory muscle to act at a given moment against its antagonist, but it is the instinct itself of life which, with exercise, puts the muscle that makes an action in perfect relationship with its antagonist; the muscle that receives an impulse with that which can give an inhibition. And this does not come about under the guidance of a gymnastic specialist, who has studied the anatomy of the muscles to perfection and teaches the children to move in that given way; If it were so there could never come that harmonious and characteristic level of the marvellous muscular system of man, which permits so many complex manifestations of movement. And to develop voluntary movement it is necessary for individuals to move repeatedly.

But there is no need to urge them to move. It is the instinct

of life to move continually. Children move because this is the impulse of life. Hence we have no reason to command them to move, because they do so. And moving, come to harmonize all this complicated system. It is so complicated that the physiologists, when they study the functions of the muscles cannot at first remember them, and we know that anatomists forget the arrangement of the muscles seven times before fixing the principal points. It would not therefore be possible with this basis of anatomy and physiology to direct muscle by muscle. It is necessary that in nature there shall be this impulse to move and this possibility for the muscles to arrive at harmony. What we can do is to help, direct this work, give facilities in the environment for this spontaneous development. This is all that we can do.

But what is the fundamental basis from which all this arises? It is this; that the individual move with continuity. But this exists in nature, so to leave the individual free to move, and give him the means to direct his motor development, is all we need do. We must leave him free to move and give him intelligent means. And this is a development of a great part of voluntary activity.

Now you know well that this is not the psychological conception of the development of the will in man, for to this conception we always add that of the moral life. When we speak of will in the child or the man, we do not mean to speak of the development of voluntary movements. we do not give to the development of the will the meaning that man can direct his actions, but we speak from a moral point of view. "It is necessary that man do not only what his impulse prompts him to do, but he must do what it is his duty to do even when his duty is contrary to his impulse." This is the direction of which I spoke at first. In the first place one might say that since every action of man involves movement, it will be necessary that at first man should organize his muscles so that he will then be able to move according to necessity, according to duty. It will be necessary for man to organize his instrument with maximum perfection. So there is a part which consists in formation_ although it be exterior_ as a basis of all this complex activity.

Passing from this completely physiological part of the voluntary muscles to the psychological part which exists in life; we may make some

analogous reasoning.

In the psychic life also we find impulses and inhibitions of the impulse. Man is able to make and also to inhibit actions, for example, the case in which a arm would like to do something which would not be useful to others. This would be the impulse which he would have to inhibit. Man must therefore have inhibitory powers. This is a thing of everyday life, and it is upon this especially that questions arise regarding the education of the will. The individual must know how to direct his activities, control his impulses, inhibit them; he must also do an inner work of choice between alternatives. Psychologists speak of the struggle between motives which lead the individual to actions and to different ideas, sometimes opposed. Man must reason about these motives and then decide. Or else there may be impulsive motives which struggle together and of which one overcomes the others. That is there is a complexity of work within the mind of man, a complexity of work and of conflict which might be compared to the complexity of the work done by the muscles in their action. And in the case of such a complex organism, it is not possible to ^{weigh} ~~may~~ reason against reason, motive against motive, and develop the various motives reasons and decisions separately, in order to lead man to perform those actions that we desire; but we must consider an organism which functions in a very complex way, which above all it is necessary to develop, and which can be developed only in the way that life always develops, — that is with a continuity of action, by existing continually.

If the plants live, it is because life continually circulates in them, if the psychic life of man exists, it is because of a continual work; and it is this continual work that represents the psychic life, and it is in this continual work that we must seek the origins, reasons, and all the explanations relative to the education of the will. As a fundamental basis there must be the possibility of developing this complex and mysterious organism, and we must act so that it develops with a given direction analogously to that which we do for the voluntary muscles of movement. It must be left free to evolve and above all there must be no impediment to its development, that is to the continuity of its action. This continuity of action which is life, this ^{is} the basis of all the other facts, of all the other decisions, of all the other inhibitions, of all

the other conflicts between motives. These are all particular aspects of this fundamental fact, which is the life of the psychic existence, which consists and must consist in action, and must develop and perfect itself with this continual exercise.

In fact, all the events of life, the external manifestations, and the social manifestation of man are not based fundamentally upon the decisions which man takes, but these decisions intervene like episodes upon the fundamental fact of man's continued activity. And we do not say that a man is a man of will who is able to make a decision at a particular moment, but really the man of will is he who always continues in his activity, who is constant in his work. The work of society is based fundamentally on this, upon continual production, upon the continual work of all men, and this the manifestation of men's will, always to continue. It is on the continuity of work that is based the life of society. We can trust a person when we know that they will be constant, not when we know that they can come to a decision or give us a promise. What value would that have? What matters, is that this person should have this capacity, this possibility of being constant. It is only then that his decision is of value for what value would it have if the man lacked constancy, the possibility of persisting in his determination?

What is the difference between the impulse of love and that of the family? It is that in love there is the decision, in the family is the continuity; society is based upon the family and not upon the impulse.

Now just as a dead man cannot take decisions, so a person incapable of constancy cannot take decisions, and all this small detail would be useless, of no importance in the absence of this fundamental basis. Hence this is the basis of the will; to continue with constancy. Upon this is based the whole life of society. As regards the particulars, certainly these are to be taken into consideration and can illustrate the fundamental fact. For example, the particulars that the psychologists consider, are first of all the impulse to activity and then the power to inhibit this activity, then the struggle between motives, which must be intellectual to the greatest possible extent and ought to have the utmost possible help of the ideas; of the capacity to reason, of the equilibrium of the mind, ...

the struggle between motives that is illumined by the reason, which produces the decision and action.

All these things have a great value. The fact that man ought to decide, to help him to decide giving him an intellectual light in his capacity to choose, this certainly forms part of the education of the will, always speaking of the man who has developed his capacity for action. And also the interior fact with which man is endowed, of being sure that he has chosen well, being sure of his choice and his action, this is also a characteristic of the inner will, which is considered alike by psychologists and pedagogists. But all these are particulars or forms of expression. As if we should say; "man is what he is, but then he has a head, feet, fingers." But in order for head, feet, and fingers to exist, it is necessary that there be the man. Hence the fundamental thing is that there exists the man. Although we certainly then distinguish in this man the different parts all worthy of consideration. In the body we tend the nails, and we tend the particular parts of the psychic life; but first it is necessary that this exist and that it be well organized.

Facts of pathology are very illustrative of these particulars. Pathology is like a light that isolates for us and exaggerates normal facts ^{us} enabling to see them better in their abnormality. These complex facts which are so delicate, we are thus able to see more clearly; since in the normal way antagonistic facts unite with them harmonically, and they elude our observation, so that we are unable to follow them or only confusedly. When instead owing to pathological changes, one part alone alters, it is as if a magnifying glass showed us the details in analysis of a great totality. Now in mental pathology, there are diseases of the will, that one might say can be catalogued according to all these particulars that the psychologists take into consideration when they speak of the development and education of the will. There are, for example, those who have no will at all, remaining inactive, have not even the power to move. For example, they have to go to a certain place and have not the energy, not of the muscles, but the energy of the will. And these persons who have no longer the will to move neither have the inner will which consists in deciding to do something. Between two motives they

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they are never able to make a decision. They are smitten with a kind of anguish by which it is not possible for them to decide anything, and these facts are so severe sometimes, that they have given rise to the tale of the person who, not being able to decide between two plates of soup, died of hunger. This picture is nothing but an illustration of reality, the anguish of these persons who are all, who would really be able to act, but cannot, since they are unable to decide the most simple things and remain continually inactive owing to this doubt. Now there are other afflicted persons who perfectly resemble these but who not at all belong to this category: they are those who have abnormally developed all the inhibitory powers. These are active powers of the will, but inhibitory. So that they want to act, feel the impulse, but there is the contrary impulse which prevents them, and so they do not move but remain motionless like the others. They wish to decide upon a thing, for instance, they wish to take this watch, but there is the contrary impulse which says; "No you must take this pencil," and so there is a different torment from that of the former type, not of him who cannot decide, but of him who feels that there is a master stronger than he, who after he has decided prevents his action. There are for example, persons who show more by their suffering than otherwise the need which they have to speak with others, and do not speak. For example, they go to see a person with the idea of finding help for some anguish which oppresses them and when they arrive they cannot say a word. They remain dumb. The other person questions them; they do not answer, they cannot say anything. The doctor also tries in every way to draw a single word from them, it is not possible, they remain mute and this lasts through the whole time of their sickness, the incapacity to pronounce a single word. They evidently suffer since they have a great impulse to confide in us, to speak, but the inhibitory powers, tragically tyrannic, completely prevent any manifestation.

Then there are people unable to recognise the truth. They can not decide whether a thing be true or not. They do not possess this possibility. For example, there are persons who go out of the house and shut the door; then having gone down a few stairs, think Have I locked the door? I must go back and see if the door is shut. And they go back and shake it to persuade themselves, open the door, shut it, and say: Now I

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know I have locked the door! They go down two steps and say; "But did I lock the door?" They know that they have shut it: intellectually they know it, and every time they repeat this, they do so to know with the intelligence that they have really shut the door. But it is the phenomenon of will that intervenes causing the doubt; and introducing the persecution of the will constantly vacillating, which always says: but is it true or not that I did this? And sometimes the doubt is formed not only in such simple things, but accompanied by moral facts. I once knew in my profession as a doctor, among the mentally diseased, one of those men, who go round collecting rubbish from the houses. This man was so honest that he had never taken advantage of anything which had fallen by chance among the rubbish. But this became a fetish for him. He thought, "Perhaps something has fallen into this rubbish by mistake, I would not care to take advantage of it!" And so as he went down the stairs with the basket, turned back and said; "Have you by chance dropped anything in among the rubbish?" would not care to take it." They answered, "No, there is nothing." So he went down again, but then said to himself: "They told me there was nothing, but is it true?" And returned again and asked "Are you sure there is nothing in the basket?" And this man could not go out of the building, but kept going up and down stairs until he was taken to the asylum. These things are common in one who begins to have oscillations of the will, more, one might say, the first manifestations of weakening of the will is not to be certain if we have done a thing or not.

Also in children we have this during the period of their formation. The case is well known of children who are afraid that a certain animal is in the house, and who, for example, before going to bed, would go and look through the whole house to see if there are animals hidden under the bed, under the furniture. One tells them, there is nothing and they go to bed and then say; "To be able to go to sleep I must go and see if there are animals under the furniture."

Now this shows us actually an anatomy of voluntary facts that one might almost compare with the anatomy of the body. They are separable

phenomena, but which normally all work together. And the normality of the person consists in this, that the impulses and the inhibitions, the decisions, the certainty of the actions, form a complete whole which concentrates in a single harmony which is organised by the inner life. And in order that these single things should harmonise, it is necessary that life should develop and that the normal exercise be continual; for it is continuity that forms the basis and organises the whole of life. Now, when we educate a child in the way in which we educate him with this method we are organising his psychic life and organising his will. In fact what does the child do? He exercises himself in continual activity.. And this continual activity is the foundation of all the other manifestations. In fact, the sick individual who withdraws from this, withdraws himself from something which is fundamental, from work. He no longer works. As soon as there appears an anomaly of one side of the psychic personality, there is a disturbance in the basis. These persons can no longer work. They can no longer be constant in their homes. The father or mother who were a good father or mother of the family, and formerly observed all that which represents the harmony of the family, work virtue etc., lose all this, neglect the members of the household, no longer concern themselves with domestic economy etc. And united with particular anomalies of the will, there is a tottering of the whole life. Delinquents also, who offend owing to an anomaly of the will are fundamentally idle, persons unable to organize their existence, since all the rest is something which is superposed upon the foundation. Now when the child begins to develop, remaining persistent in his work, he is constructing his whole personality. And the basis of his volitional development is this, so much the more since in this basis he develops all the particulars which are considered part by part by the psychologists.

For example, the child must decide upon an action, choose the objects which he has to use, select certain actions to make, and the more he chooses these actions, the more he develops this particular of the will.. It is a continual exercise of decisions that he does, a continual exercise of choice. It is not only the work which he does materially. He does all these exercises of the will. And in this way his

powers of inhibition are exercised continually, precisely because he is active, and it is being active that he learns not to disturb his companions whereas remaining still he would not have this ability. It is by being active that he is able to inhibit a hand that would move badly so as not to break a glass. It is being active that gives the powers of inhibition to his muscular movement, so that he can make so many movements without noise. It is when he is active that he reaches the point of trying to inhibit a physiological impulse that is thought to be irremediable such for example, as a cough, so as not to disturb the silence which he has learned to love. Similarly in those other simple exercises when he takes a few objects while there are many, he also performs an exercise of inhibition, since all is done by this harmony of impulses and inhibitions from which comes inner perfections.

The work of the muscles must be evolved by exercise. It is a life which develops. Now when we think that to educate the children's will consists in preventing them from making decisions, and in deciding ourselves, we obstruct the development of the will. When for example, we keep them motionless in a class to listen to us, we prevent their activity and suffocate a great quantity of work, which would tend to develop the will. When we choose the work of the children must do, the child does not make the exercise of choice, but we nevertheless repeat; children must be educated to activity, they must be educated to decide, to be able to choose. But what does this mean? How, if we prevent them from doing all these things can we say that we wish to educate them to choose? A teacher of a Froebelian school once said to the children; I want you to be able to choose, come and choose. What would choice mean in this case? It is not perhaps the same mistake that is sometimes committed socially, saying to the people of the proletariat: You are now free to choose? What does this mean what does this offer signify, if we have not given them the possibility of choosing? When for example, we give the working classes the possibility of earning more so as to be able to choose the better things of life, never having taught them to know the better things of life. For what do we give them this liberty, if first we have not done a deeper work, which is the work of the soul, the work

of education,-- the maximum ~~help~~ work of help to men, which consists in illuminating them to know what pleasure is, to develop their activities so that they can taste the real joys. It would be like saying one day "All the blind are free by law to see." But if you do not give them sight. To develop this, then, there is one fundamental means, which is, to leave men free to develop. Since when we prevent them from developing, from deciding, from being active, from choosing and then say to them: You are free to choose, to decide, we do an injustice. In order that man can arrive at this, it is necessary that his life should have been free from the beginning, it is necessary for the persons to be free to develop, free in their activities of choice and decision. It is in this way that the children exercise themselves to develop all this. And the man who is capable of all these things is the man who has been free to develop. If instead we prevent all this and then desire to give liberty of action, we find ourselves faced by an artificial difficulty, since nature would have lead man to form all these things..

Perhaps some examples will be useful to make these questions clearer. In the common ideas which exist upon the education of the will we have this prejudice, that the child must be reduced to doing what we tell him, since we believe we are acting for his good... And we hold that the child must develop in himself only this fact, of being able to conquer his own impulses and do what adults tell him, so that later in life the adult man will be able to conquer by himself the impulses that are not socially useful. In short, when we do not fix our gaze upon the fundamental fact of the development of a life, but take only the episode, the detail, we are in a field of ideas entirely different. He who has as his aim, life as a whole, has in himself, includes naturally in himself all the particulars and the solution of all the particular problems. He, instead, who aims only at the particulars, finds himself in an amalgam of problems which seem insoluble and are most difficult of solution. Well, the state of things to-day is in this field of the particulars.. All the problems which we admit in education, are all problems of the particulars that seem so difficult to us of solution; and really they are insoluble if we have not the synthesis as a fundamental basis of all our conceptions.

For example, in the analytical ideas that we have of how to educate little children, we have this conception, that if we can induce children to keep still, not to be capricious, not to tell lies, we shall have well educated children.

Let us analyze these details. You already know something of this. When we say to the children keep still. Don't touch, perhaps we develop in them useful powers of inhibition? We cannot prevent the child from developing his life, we prevent him from living. Life developing in the child would lead him to move well. When we say to the children: Be still it is because the children are a nuisance to us personally, we wish them to keep still merely to save us this annoyance, and deceive ourselves into thinking that this is good education for children since they must be able to conquer their impulses and the impulse of the child being to move, we telling him to keep still develop this power in the child of being able to overcome his impulses.

But that impulse of the child is an impulse of life. We do not develop anything but only destroy what the child wished to develop. It will be all that series of inhibitions and harmony to develop between the actions on one side and inhibitions on the other, which leading to the development of an activity suddenly shows us a child who works. One could never say that the child who has simply had this order "Keep still" will be a superior and stronger man than the other who has learned to move. Thus when we say to the child: "Don't touch", we say it because he gives us annoyance, it seems that this is not good. We tell this disturber to retire. But we know well that the child develops himself in touching things and then we prevent him from developing his inner life. It is not a question of will, of inhibitions, of impulses; it is a question of life or death. When we say: The children must be educated not to tell lies (this is a defect as you know common to childhood) we generally judge them without making an examination of their conscience, like judges. Now it is known that the infant falsehood is a fact recognized by all the positive psychologists who are occupied with criminality, since normal children have been called as witnesses and have made false depositions; while we thought they would have been incapable of that horrible action which

Adults often commit of false testimony. It is found instead that children declare this false, but unconsciously, believing they are stating the truth, since they have vague perceptions of things. The infant lie is often based upon this immaturity of the mind to recognize the true from the false. It is a fact of infant psychology, and also a fact of weakness. It is also known that hysterics lie because they are in a state of disturbance of the whole psychic personality, they lie also believing they are telling the truth since they have false perceptions. The little child, owing to the immaturity of his development does not distinguish the true from the false. But if we have not taught him to distinguish this, and know that the characteristic of the immature infant mind is this, how can we give him the command: do not tell lies? It would be like telling those persons who confuse green and blue: not to say that green is blue. They see it so.

Now it is the inner exercise of life, which leads the child to distinguish the true from the false, to be able to reason about things, and make decisions; it is this exercise which more quickly leading to the maturity of the mind, most quickly ~~assumes~~ the life of the child to disappear. As I have often said, the children have tyrants, albeit tyrants who love them, from whom we must save them. "How", they say, "can we correct the lies of the child if not by saying to him, you mustn't?" But they do nothing to help the mind of the child to apprehend the truth, to distinguish the true from the false, to analyse real things so that his mind in this exercise becomes strong. Too often we do not consider this, while we ought to act so that the truth becomes vivid before the consciousness. Many mothers are concerned by the untruth of little children while they do not mind if their grown-up children lie. We do not set ourselves this problem. We wish the children quickly to become men, but only with a command: "Don't" or "do". We have seen that with our method the caprice of the child disappears. Once a mother insisted on asking me "What is to be done when the child is capricious". I answered "My method is experimental, and without making experiments I cannot answer, but I have never seen caprice in my children." After some time the mother came back to me and said "Now a year and a half has passed, now you will have seen the children capricious."

And I answered: "I have not seen it yet. The caprice of the child is the rebellion of life that claims its rights." This is the conviction to which I have been brought. If the child could reason like us, and could judge of us, he would have to say that it was we who were really capricious, since we hinder his life from movement, whereas that is its mission. When we say to him "Keep still" he could say "Capricious you!" Since you try to hinder me in my mission, the only mission that I can have at this moment in life, because I cannot do other than form myself." Similarly, when the child wishes to touch things, so that his mind shall have a control of the inexact perceptions of the other senses: the eyes see different dimensions in the objects, since they are not yet accustomed to correct their images, but the touch helps to form these images with exactness. The child wishes to take the truth from the world, and when we prevent him from exercising himself in that, by touching the world with his hand to take possession of it, he might say: Why do you not want me to correct the falsehood which would otherwise come into my mind? The child for example, wants to stay with his mother, and loves her, but the mother wants to go out and says "Let me alone what a nuisance you are!" And the child who feels love swell within him might think: "Oh, but why do you scold me!" and at the same time he hears people say, "You must do this!" The entry of the must is premature, since he has not yet formed his will and was hindered in this formation; and if the child could understand, he might say "What tyrants are these, they hinder me from living, from fulfilling my sacred mission, since from nature, I have no other mission than this: to form the man. And then they follow me saying I have no will, that I am naughty, that I am capricious!" The older the child, the more he feels the need of exercising himself at length in something, and then in the schools, after ten minutes they say, "Enough, because you must rest. He feels the desire to choose something and they say: No, I will choose for you." And yet we repeat continually that we must develop in the child affection for his mother and for others! It is just like the lion tamer, who puts the lions who are very strong and well able to jump, in a cage of iron, and then whips them to make them jump. They cannot jump. The lions have lost their nature and acquired nothing. All men

lose in this way who suffer under tyranny. And so in the child we do nothing but curb their nature, whereas for man to be strong and to be able to will, he must first develop, and later he will be strong in his psychic life, will be able to will far more.

We wish to teach children from the first, thinking to make them powerful. "To will is to be able!" We prevent the will from developing and then teach, "To will is to be able!"

Man is capable of all that he wills; so learn to will! This phrase might be applied perhaps to the strong man who has a powerful will; but not to the weakling who was hindered in his development and who was simply told "To will is to be able." He who has had his will broken all his life is in a very different position from the man of strong will who will be able to overcome the great obstacles in the world. It will not be the encounter with obstacles, but his life developed or not that will make him strong. If we believe that the individual must be diminished in order to be honest, we certainly make a great mistake. If we think to weaken and break be necessary to keep this so inferior and tottering morality in its present day state, it means that we have very low ideas of morality. We need not be afraid for the normal man who is developed with all his powers, we ought to be afraid to diminish him. If the environment does not correspond to this man, this new man will reconstruct the environment. We need not fear to make a man better than ourselves since our environment is not worthy of him. Let the better man come and he will modify the environment!

Meanwhile that which ought to guide our actions is this profound conviction which perhaps you will feel in your practise with children a faith that man left to develop in the liberty of his life becomes strong. This is the man of power, in all the senses of the word, in the powers of his will, as in virtue. Just as on the physical side to protect man from disease we ought not to concern ourselves with microbes and how to cure his illness, so much as to make him healthy to the greatest extent possible, since making his body healthy and strong is the only means of saving him from sickness. If the environment is full of microbes to the extent that we cannot purify it, let us do all we can to make the body

ॐ नमो भगवते वासुदेवाय ॥

Lecture X

For private circulation among the members of the Class only.

This version of Dr. Montessori's lecture, being the translation by Mr. Clarendon of the report taken down viva voce, Dr. Montessori assumes no responsibility for possible inaccuracies in the rendering of her lecture, not having been able to revise either the Italian report or the English translation. The distribution of this report is authorised for the personal use of members of the Class.

Lecture of June 15th, 1914.

I have arrived at the end of this Course a little like the virtuous who find themselves at the end of life burdened with debts and feeling that life is all too short to be able to do good, and to have done one's duty. And this I am the first to feel. Moreover, you also have reminded me of it, asking me with justice for so many explanations that I have not given, and which perhaps I could not even have had time to give. For the rest, that which I have tried to do in this Course, has been to explain above all in the practical part, a brief work which I have done; with which brief work a very modest aim has been associated - that of making a contribution to the education of little children of from 3 to 6 years. And this little work is certainly not the solution of all the great social and moral problems which are included in the education of man.

In this single hour which remains, I would like to answer many questions which are of maximum importance, and I do not know how to attempt it. For example, this question comes to me from all sides. "You believe that life consists only in the intellectual part, in the education of the intelligence, and do not consider in any way directly, moral education, which is the principle part of the education, ~~which is the~~ You who speak of life, do not speak of this, which is the most essential part of life, the moral life of man. You do not speak of religious education, which has always been and is always, one of the sublimest parts of education. One might say that the purpose of life, and the aid to life is really this, and you do not mention it." And others say; "And how are we to consider ourselves in front of the child? Are we to become nothing? Are the teachers to be nothing to the child? Must they merely retire, efface them-

selves, so that life shall unfold? Is our duty reduced to this? We have become useless before the child."

All these questions which are very wide and difficult, may be gathered to some extent under one heading, which one might call the question of the moral life of man. But this question is very vast, and the contribution which I have wished to give with this Method, has been above all the contribution of a single idea; This idea; that we must have great faith in life in itself, since in life in itself, there is an order, there are potentialities, controlled by laws, just as the whole universe is ordered by laws. And it is impossible to believe, that only the soul of man, which is the sublime creation of the universe, must be the only thing which has no laws, and which awaits their creation by man. And, if there is a life, this life must develop. "It is always" you will say, "the same motif." But this is the fundamental motive. This is the littleness of the Method, on account of which you so often ask questions. If you have not that faith in yourselves, and if you have not yet had that experience, the Method is a very little thing, it is a minute contribution, and the mind remains full of questions in front of it.

But that which must answer these demands is the soul of the man that evolves; it is not I. I do not give a theory of my own, or an opinion of my own which is not worth anything. In that case, it would be better to take the opinions of the great men. My opinion is of no value. That which has value, is the fact of the soul which develops. In any case, these are on the moral question whole sciences of ancient times, and whole modern sciences, and it would not be possible to develop these sciences. The ancient science above all, consider the moral question from an abstract, spiritual point of view. Modern sciences consider the moral question as a positive fact, that can be analysed and studied in its constituents, and it is this last conception that should enter our thoughts with regard to education by this method, which is positive.

We are much pre-occupied with this moral question, and with teaching the child goodness, although we do not ask ourselves what is good. But this is nothing extraordinary, we very often wish to teach things without

knowing what they are.

As I have often said, we consider those acts as bad in little children which are a defence of life. First then, we must decide upon a criterion of what is good and what bad. One might say that in the evolution of moral ideas bads continually dissolving, continually melting away, in fact, analysing it, we consider evil, in great part as the effect of external causes which are not absolute, and against which we can accordingly fight.

Here then, we find ourselves no longer treating of evil in the individual, but bad in the environment, which it is necessary to eliminate. And to eliminate the bad in the environment, becomes an activity of the society. Eliminating many of the errors of the environment, many forms of wickedness disappear in man. And so the moral problem becomes a social problem to this extent. Thus we see that social problems are continually extending their field. Besides this, eliminating questions of pure morality, it is seen that the causes of many so-called moral evils, are physical evils. If then, causes of moral evil can be illnesses, these moral effects are no longer moral faults in the old sense; and a struggle against these illnesses can take the place of an attempt to make those men good who are bad owing to a pathological disorder. And a great number of the problems of criminality are to-day put upon the same basis.

Other facts also can bring an evil which is not absolute in itself. For ex. social errors. For instance, the fact that men have insufficient nourishment leads to reaction which represent an evil, which one cannot cure trying to moralise man in himself, but by seeking to remove these bad conditions from the environment; by giving men better conditions of life. In short, to better the biological life, and better the social life of man is a great positive answer to many social questions, which were in this sense insoluble, that is, they were not questions of pure morality, but I repeat, pathological and above all, social questions. And medicine and sociology as they progress ought to have this mission of purifying the moral question, of sweeping it clear of all those things which are not the moral question but which cover it, hide it.

If we make a wide division between the men who are healthy, well conceived, perfectly developed from the point of view of the nervous system, from the men instead who were badly conceived and not well developed, we are already dividing, one might say, the good from the bad. And if we divide people who socially have good conditions of life from those who did not we also in large part divide the good from the bad; in fact, criminality and immorality have their maximum contribution from the lower social classes, and from persons who are ill.

If for ex. we were to be present at one of the many scenes between those of the lowest social classes, the persons who have insufficient bread if we are present at one of the violent scenes between these men, and we may receive the impression of being in the presence of very wicked, very violent men, whom it would be necessary to educate to gentleness. If we go among people, for ex. workers, who have reached a certain social wellbeing, and who have eating houses well arranged, and enter those quiet well behaved, ordering what they want to eat, we might say, "Oh what good people! what peaceful people!" and we are not in the least moved with a desire to moralise them.

Now, these two types of persons are so because of facts completely independent of purely moral questions; and it would be quite useless in the one case to try and moralise them, and in the other to admire their goodness. If however, we said; to moralise man, therefore let us give them plenty to eat, we should evidently fall into error, for this would certainly not solve the moral question of humanity. It would be curious indeed, to arrive at a question of material bread, speaking of moral questions, but evidently this material fact contributed to the revealing of the moral question, it clears away obstructing litter that comes from external evils. Now this fact is recognised by all, and is one might say, the apex of the moral question, the fact that is, that the external conditions and the material conditions of life are a necessity for man's betterment, above all for his conduct in his relationship with his fellows, etc.

Hence, one might say that so much the more in children, it is also a contribution to the moral development to provide for their material life, to see that they are well conceived, without illnesses, and without those

physiological troubles that may come from poisoning etc.

This evidently includes an entire reform of the habits of the adults. But there is another contribution, which may perhaps claim originality, and which is the contribution given by this Method. That is to say, man not only has need of the material conditions of life in order to live normally but has need of other conditions, which are also ones may say, of hunger, but of intellectual hunger. And it is necessary to satisfy these needs, which are of a primordial nature like the needs of physical nourishment, and to satisfy them well, in the best way possible, in the most hygienic way possible, that is, according to the laws of life. This must be done for life to manifest itself in its best conditions, for calm to be obtained, which is a necessary condition for life to develop itself. In fact, in our schools we see all that which was formerly called the naughtiness of children disappear, the caprice, the rebellious ways, give way to a peace, a joy, a calm, that makes us say, "How good these children are! How is it they are so good? How disciplined and obedient they are!"

With regard to the others, these children might be compared to the men who peacefully eat their lunch in a restaurant compared to those who have to fight their bread and have not yet as a recognition of human right that given quantity of food that hygiene has declared necessary. And these other children instead, may be compared with those persons for whom this right to nourishment has been recognised, although it is not a material nourishment. The food must be given according to certain hygienic laws, the food cooked, measured, purified of poisons, etc., and then these persons have all the appearance of being tranquil, peaceful, or as in our case, good and calm. We have struggled against other forms of rebellion, parallel in every way to the material ones.

And if the questions of social morality must continue upon the same positive lines, it is certain that we to-day must consider the need of man for the material bread, but also the deepest and most human needs which have the same importance. Nevertheless, when we say that children or in general, if you like, people, are intellectually satisfied, that they have been able to take from the environment those stimuli that were necessary for the development of their intelligence. When we can say that they have been satisfied by this food and have developed their intellectual life in the best and most hygienic conditions possible, we

still feel far from the moral problem; just as we feel far from the moral problem when we contemplate men who have to struggle for their bread, and those who need only seat themselves quietly at a table to eat.

We all feel that the moral question cannot be in this, and that there is a deeper question. Well, why do you wish me to enter this deeper question? If the whole world believes that a great step has been taken in putting the moral question on a positive basis, saying that man has a right to the material life, and here we speak of another step still, saying; "But man also has right to a deeper and more human life if, resolving this problem, man becomes much calmer, more serene, much readier to be what we call moral; then it seems to me that there is no need to ask more. There is already an immense deal to be done upon this to construct the moral world, no longer upon material bread which we eat, but upon a finer bread, more elect, a bread of the spirit, in that of its parts which is intellectual. One might say that instead of making the last demand, it should be a case of stopping. Seeing that the responsibility for human morality does not rest upon me, neither the task of solving that great problem, one might say that I have given my modest contribution, and this might be widely applied to give a further contribution to the exterior moralisation of man. I do not therefore feel at all at fault if I do not know well how to answer for the rest. It is enough for me to say merely, that I realise that the moral question is not this, and that when all should be satisfied, hygienically, perfectly, in their spiritual life, in this limited sense, then perhaps it will remain really to face the moral question directly. It would have been purified, cleared of all the dross, which was not real immorality, but ignorance, external errors, and when this moral question was so cleared we should see better. We might say; "Let us leave to the men who have made this second step, the task of facing to their joy, the more sublime question and resolving it.

In the meanwhile, one thing may clearly be seen; the direct road is not that of the preacher teaching him goodness. On the moral road there are not teachers only, since all these teachers enter that social sphere full of errors and are themselves overclouded in their moral vision

if they do not understand that they are not able to moralise other men. This question of moralising goes beyond the power of one who preaches.

This also might be a contribution to the practice of moral education; to think that we cannot be creators of good. He who is religious can understand this more easily than one who is not, since the religious know that God is the creator of good, and is the supreme good, etc. It is not therefore for us to be the creators of good. He who is not religious may feel this truth later, but with the same clearness.

As the progress of positive science tells us, we can eliminate all those causes which are contrary to the normal development of life. This we can do, and it is not a positive action, but one might say, a negative action, to remove the obstacles, always more and more, incessantly; to seek obstacles everywhere in the material life, and in the more elect life and remove them.

Christ also says; "Agnus dei qui tollis peccato mundi" "To take away the bad" and when one removes evil, there comes the good.

It is evident that he who should remove all corruptions, especially those which bring physical harm to posterity, he who should give bread to all men, and to all men the rational food of the mind, would make a better world.

Nevertheless it is impossible not to consider the purely moral questions in education. For until new moral theories arise, the old remain

In the moral life there is undoubtedly something parallel to the intellectual life. The cultivation of the intellectual life began with the senses, and, the latter arose from this as something magnificent which was a surprise to us. I believe that also in the moral life that something similar should happen. The education of the senses must proceed and be as a fundamental basis, a necessity, upon which to construct the whole moral life. Naturally, I do not speak of the physical senses, but of the sensibility of the conscience, of the being who is sensitive to good and bad to an always finer extent. Undoubtedly this is the basis of a moral life.

Science also begins to consider it. Positive science speaks of the "moral sense" of persons whose moral sense is blunted, who have lost

their moral sense, or in whom it has become abnormal. And we speak of people whose moral sense is more or less refined.

There is a sensibility to good and bad, of which all speak in connexion with conscience. It is a word a little vague, but there exists the idea. To educate to moral sensibility; this is the fundamental thing. What value have all the theories of morality when the sensibility is lacking? If for ex. we were moralists and knew all the philosophies and dogmas and recited them, talking with great wisdom, of what use would it be without moral sensibility? What avails it to the Priests of religion if one has not the moral sense? Christ said to the Pharisees, "Whited sepulchres that inwardly contain the putrescence of corpses, and outwardly are covered with white." He who does not feel inwardly is dead, and who, not feeling inwardly would cover himself with moral principles is a tomb. That there be instead, the living man, is what matters, the rest comes of itself. There must be the living man, even if he suffers. Christ said; "Blessed are the sorrowful." as those who love are blessed. But also those who suffer, because they feel. He who feels is alive. The question of life is in this sensibility.

Now it is certain that in education we do not take into great consideration this that might be called the sensorial part of moral education. More, we pass over it completely, and even believe that we can give moral education with stories, and that religions can be given by teaching all the external parts of religion but not the creation of the moral sense. To make this our aim instead, is a foundation I believe, (I wish it were practically possible) of a reform of moral education. For there are many people to-day who lose their moral sense, not entirely, but they lose its fine sensibility. For the rest, we are rudely cast in all our senses. We have ears no doubt, and hear, but we cannot perceive the delicate sounds and fine harmonies. We have eyes but cannot see the exquisite subtlety of the lines in a masterpiece. And similarly, we have consciences, but we are not sensitive to the refinements of the moral sentiments. To educate the conscience to the finesse of this sentiment, as the first fundamental immense part, this would be the task of moral education.

In this part I believe we have little vision. We often wonder if even an evident fact is good or not. We have criminals at table with

us, it happens to us that we extend the hand to delinquents up to the moment when they actually commit a crime. And yet these persons had shown a moral insensibility just as for ex? those who had no ear for music show an insensibility to music and can hear the most jarring discords with a smile. But at least they are aware of them. There are in life, many deep moral wrongs that leave us tranquil, that let us live in a certain contentment, that even allow us to set ^{ourselves} this kind of aim in ourselves, life to find out how to live happily. It means that we do not feel this evil as something which wounds us, which hurts us like the sound of a tram screeching on the rails would hurt the ear of a great musician.

One might say; that in what does this basis of a moral sense consist? We all know in what it consists; perhaps we do not want to confess it, since we have repeated it too often and often felt it; but we all know that the fundamental basis of this sensibility we call love. To develop love is to develop the sensibility of the conscious, since, when one loves, there is no more need to ask where be good and bad since it is evident in itself.

The religious from Moses to the present day all speak of this, and teach that all the wisdom of the progress of man lies in love. In the ancient law of Moses it was said, "Love God above all things and thy neighbour as thyself"; then came the law of Christ which reformed this, and his reform was none other than a reform of love, the deepest sensation of life. In fact, the reform of Christ was this. He asked, "Do you believe that I love you?" "Yes." "Then do for others what I have done for you." That is to say do not love coldly as you have till now, even yourselves; who in truth you have never known how to love. If we knew how to love ourselves we should lead a different life. We even approach death and poison ourselves. Hence we do not love ourselves enough. This must be the reform of the moral life. Now, if we should wish for the particular laws for the teaching of life, we find this teaching if we search the teachings of - great history of mankind and religion, it is very simple. For ex. underlying two religions there are no more than two phrases of love, the one inferior the other superior, that is to say a weaker love and a more sublime love and this is enough for all the generations of the centuries, a principle, a phase. But, if we then observe

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the special instructions, the legislation upon which whole peoples have grown up, for ex. the Hebrew people, we see a very simple law which might almost be compared to our instructions to little children when we say, "Look, this is blue, this is red, this is big, this is little,"

It simply says, "Thou shalt have none other Gods but me." This is the principle, but then it says, "Do not kill, do not steal, do not bear false witnesses, do not desire the things of another." and that is all. That is to say, "Do not be stopped by obstacles, but shun them, remove the obstacles to your life, free yourselves from the obstacles which do not permit you to live. Do not kill, for that is an obstacle to your life. Do not steal because that is an obstacle to your life. Do not speak untruths, for this obstructs life. Do not desire things which are not yours, because this is an obstacle to your own development. For the rest, Know that God is God, and that is enough. Removing these obstacles man lives, and the more he frees himself from them, the more he is able to live and advance in his existence. And he refines his conscience always more up to the part of being able to feel a law of love, another deeper law of love. To remove the obstacles is the essential. When also, in the religion of Christ it is said "Forgive" what have we? It says to man, Remove from thyself the obstacle of rancour. There is no need for one man to pardon the other. What does it matter if a man forgives or not? That the man who has sinned be pardoned by the other, this does not matter. We do not forgive for the sake of the person who is pardoned, but for the sake of ourselves, since until we have pardoned we are slaves to this feeling, that is an obstacle to our life, and when we have forgiven we have cast off this obstacle and can raise ourselves. In fact, the others will never be saved by our pardon, but we shall be saved in forgiving and removing the obstacles which impede us. This principle, one might say, is the same principle as that of spontaneous life which evolves? The spontaneous life which unfolds has no need of help in itself to develop, it only needs to be kept alive, for when it is dead it is ended. But as regards actions of help, they are all nega-

active actions, but it is not we who can give life; it is not we who can create goodness. We can remove the obstacles to to goodness. It is the same universal principle of life, it must be free from the impediments to its unfolding. The rest is the work of creation not our work.

This principle, as a principle of fact, one might say, of method, i. e. that moral education is given by living, by loving, and by removing the obstacles; is contained in many of the teachings of Christ.. Among others, one is most striking is that of the last judgement; and which one might say is symbolic, fantastic but grandiose story of the duties of man? The figure of Christ, who says to the condemned "Away, perish in the eternal flames. Ye have met Me naked and ye have not clothed Me; ye have known that I was imprisoned and did not come to find Me; ye have known that I was an hungered and have not fed Me." And the others say "Well but when?" "Whenever you saw a man that was hungry, who was imprisoned, who was thirsty, who was naked, if it was I. You did not take this obstacle from the life of man.

Those men were unable to live among these obstacles, they were hungry could not clothe themselves. They were unjustly imprisoned. These were the obstacles to life; and you have not removed them. More than this you could not have done, because man can not go more, he cannot create. What could you have done? Removed the obstacles? You did not remove them, you did nothing, you are among the lost."

And He says to the others, "Yours is the eternal life, because when I was hungry you gave Me to eat, when I was thirsty you gave Me to drink; I was naked and you clothed Me, I was imprisoned and you came to find Me. And these said "But when?" "Every time you saw a man in these conditions you removed the obstacles; to the triumph of life, which is needed. And this is all that you could have done. More than this men absolutely cannot do?."

As regards living, man lives because he has been given life, not because other men made him live. Other men must not hinder life, this is all. And not to hinder life, it is necessary to love. In this lies the secret of all, because if it were necessary to give instruction

as to what we must do when we love, these could not be given, since that which we must do when we love multiplies with the progress of humanity, and has no end. It cannot be limited. One can say love as much as you can, have this sensibility to love to the greatest extent possible and the rest comes by itself..

These are short simple fundamental principles, that teach our action which action is extremely limited. One might say we are the humble sweepers of the refuse, and that is all. And that we become rejoicers in the cleanliness that is formed, since this inner cleanliness this is life.

There have been persons who have had the greatest moral sensibility, which one might compare with the sensibility of the genius, e. g. the artistic genius who perceives the aesthetic refinements. Now these persons are certainly very rare, just as geniuses are rare but they show us that it is possible to have this moral sensibility, by which one can recognise beauty from ugliness in a soul.

There are anecdotes which can serve to make clear the basis of the idea. And make us realise that if this cannot be obtained, nevertheless more sensibilities in recognising the qualities of the soul could be reached than are common to-day..

We are told for instance of Saint Teresa, that when some person mundane and not good approached her, she suffered as if she smelt a bad odour, Not that, she smelt the odour but felt the suffering which comes from something which ought not to be. And this suffering in him who feels it is salutary, since who feels an annoyance cannot tolerate it? When e. g. we smell pestilential odours, we do not live tranquilly but try to eliminate them. When we feel such a great nuisance we cannot endure it. Hence we bestir ourselves to remove it. And if all men had this moral sensibility, so much the less could they live so quietly, contentedly and peacefully, in the midst of the moral odours

Just as E. G. some people of the slums live among dirt and pestilential smells that make us ill and we say " How can these people live like this? They will die. We cannot live in these intolerable conditions, we must clean them."

If then, we also felt this morally, we should not be able to live in this putrefaction in which we live happily in our society, but we ought to feel the impossibility of living without acting in some way to clear this moral environment.

This is told of one of the Holy Fathers of the primitive Church who lived in the desert with some acolytes. They were absorbed with the great ideal of human redemption, and in this they were above all others, besides having the virtues such as that of work, which at that time still did not exist. In fact, these were the first great cultivators of the earth, the first great farmers. One of the Holy Fathers was standing in the desert with some others about him, when a woman passed him, a prostitute, very beautifully clothed, and very much bared who was followed by a crowd of men. As this woman passed, the Father said, "What a beautiful woman!" The others were all amazed. How could he have said, what a beautiful woman! And he said, "Oh! What a beautiful woman!"

But the day after, this woman threw herself repentant at the feet of this Father, and was one of the first women who then founded the convents. This Holy Father had seen in the woman who had passed, her conversion, and admired this great beauty of the soul. He had felt it. They had not. For that reason he said, "How beautiful she is!" Certainly, moral sensibility is something internal, that cannot be taught from without, and it is also something which is also strictly united with the religious sentiment. This is told by experience. That is, experience tells us that when a person feels religious, this person has a sudden clearness, like a contemporaneous intuition of good and evil. We have many tales for ex., of conversion. When a person is converted, in that moment when he is converted, he does not begin to adore God, but feels something else deeper. It is a revelation of himself, and he feels as if his senses, which formerly did not feel, suddenly felt; and the man then, above all feels himself. The converted immediately declare themselves to be great sinners. What does this mean? That within them good has been separated from bad, and this bad.

they feel like something external, whereas before it was something which made part of themselves, they lived and were not aware of it. But in the conversion, it came like a rupture; the bad is separated. They feel it and reject it, this is the first thing, to clear oneself, to feel the horror of something which formerly one tolerated, owing to being insensate, lacking the finesse of the inner senses. One carried it thus in life, also believing oneself to be happy.

These conversions are inner, simple crises, one might say, sensorial crises, crises of the inner sense, by which there comes a sensibility which did not before exist.

One of the strangest accounts of conversion which I once heard was this. There was a man who was giving a very fine discourse, and he was also a great orator and was being listened to with great admiration by a crowd. Suddenly one of these shouted out, "I repent, I am converted and interrupted, and wished to recount all his sins. The great orator asked him, "Do me the kindness, tell me what were the phrases that so deeply touched you. Was it the last sentence when you interrupted me or before?" And the other answered, "Ah! I did not hear anything of what you said, I heard nothing, only you made a gesture at me with your finger while you spoke, and I understood that you indicated me, and felt that I was a different man." Thus it was an inner fact of his conscience and not the sermon which had converted him. It was something imperceptible, external, an inner crises was preparing, a crises of sensibility, and what did this person say when he was converted? He did not say, I want to adore, etc., but said, I am a great sinner, I must rid myself of this enormous weight and tell you of all my sins, casting away all this which defiles me. There are also some interesting observations made in recent times, by positivists and psychologists upon the relations between moral sensibility and the religious sentiment, quite recently in fact, in the acts of the last Pedagogical Congress in Brussels a study was recounted made by a psychologist upon a child, who had had no religious education, and neither naturally this education of the moral sensibility. This child was once seen to cry bitterly without any apparent reason. The mother asked the child why he was crying, and he said, "Because I remember seeing them ill-treat a little lap-dog,

two months ago, and at this moment I feel it," and he cried pitifully. A year and a half afterwards, the same crises occurred in this child. One evening he was looking at the moon from the window and broke into bitter tears. His parents almost wanted to reprove him for this. But he said, "Don't scold me for looking at the moon, I understood how much pain I had caused you, and I knew that I had offended God. But I know God is not in the moon, but looking at the moon I had this feeling." And the psychologist pointed out how the sensation of others hurt, and also that of animals, and the sensibility later to the pain given to his parents which could not have been much - in short, the refinement of the conscience to the hurts of others led in the end to the religious sentiment. In the child, that is, there was this evolution, the inner sensibility and the religious crises of the child, who was almost converted by himself, looking one evening at the moon and feeling that he had not been a good child to his parents. Probably he had been a good child, but the sensibility of the conscience is precisely that of feeling small things and always finer distinctions to infinity. Now if we set ourselves this task of giving sensory education to the conscience, the sensation of right and wrong upon the basis of love, to the children - if we set ourselves this task and do not suppose that in the conscience of the child there is an innate sensibility and an innate love, we certainly set ourselves an impossible mission. What could we do? It would be like saying; "We now want to make him see the yellow, the red and the blue, and then shew him that those colours are everywhere? How could we make him see it if the child did not see it himself? The fact is, that the child has eyes and sees, and we cannot do other than help him a little, but as a first basis there must be this. Hence we must depart from this fact, that there exists the conscience which has the possibility of feeling, that it can be refined infinitely, more still than the material senses, and that upon this road is the development of morality. Now When we wish to direct this fact of life which exists, evidently we must be a little instructed in it ourselves. Just as we must be in-

structed when we wish to be teachers; we go and study, attend a Training College, take a Diploma, be it only to teach a child that one colour is red another green. It is evident that we wish also to be teachers in this, we must learn. We know very well, that if we wish to teach music or art to the pupils, the first thing one must do is to learn music, learn drawing. And it is evident that we should be bad directors and so much more wicked, if we intervened to correct a child in his music, knowing none ourselves, or to correct one who would spontaneously become a Giotto, not knowing how to draw. Hence it is necessary either to become teachers or not to intervene too authoritatively in this life, certainly it is necessary to learn. This in fact, is the point of departure, and it is not easy.

There was once a King, I believe a King of Spain, who had an idea for a great project. He was a good King and wished to undertake a great project to reform the people. For advice he called a friar who was a saint, and asked him to give him counsel as to the means to be followed, explaining his plan, "I wish to reform the whole people." The friar said, "Excellent idea, do not let it drop, It is only necessary to know how to begin." Said the King, "Well, I am ready to do anything whatever." The friar said, "First I would say that you should reform yourself, then the Court. When you have arrived at this point call me again, and we will think about the rest."

It seems that the thing went no further, since we still have to reform the world to-day. But if there is anything possible and practical to do it is that of reforming ourselves as far as we can; at least to have a little sensibility and conscience regarding right and wrong. And then let us try to prepare our conscience to feel it and make this our mission, knowing that souls are under our care containing this conscience from birth, and the capacity to develop this great and infinite sensibility, and these can be diminished by us if we impose obstacles.

I have seen, for ex. some of the best teachers, who were obsessed by the giving of moral education; and did nothing but preach to the little

ones to be good with their companions, love their brothers and sisters, love their mother, their teacher, etc. If it were enough to say, love every problem of the heart would be solved. "Love me," it would be very convenient. But this teacher did nothing but repeat to the child, "Love your brothers." It once happened that the children made a ring, since this teacher gave the children collective games. I was present, and let her go on, since if she believed it necessary, there was no harm in it. It was an innocent thing after all. There were two brothers, one fairly big and another little one who could hardly walk. The older child did not want to leave him, did not want to abandon him, was afraid he would cry. He did everything so that the little one should not be abandoned by his companions. But this child could not walk, so the game could not proceed. Therupon, all exclaimed to the child, and the teacher also said that the little one could not play. The older one still did not want to leave him, took him with maternal care, and let him take hold of his pinafore with both hands, then gave his own hands to his companions, and then walked slowly, slowly, in case he should fall. He protected him with the care of a mother, but at the same time was obliged to make the circle. And the teacher said; "But leave him alone, don't you see that he interferes!" Yet this was the same teacher who said, "Love, it is necessary to love." But what greater proof of more marvellous and moving love than this species of maternal love of the little child who wished to defend his little brother and did not want to leave him? This simple fact then, of feeling that this soul which manifest the beginning of love is more manifestly valuable than a circle gained, is enough to give a certain guide.

Thus, for ex., this teacher told the children to love their parents, not to be selfish, not to want everything for themselves etc. Now, once she gave some sweets to the children and they wanted to keep them for their parents and not eat them. But since it was a person of importance who had given the sweets, the teacher said to the children; "Eat them, eat them. It is rude not to!" But they hid them in their pinafores to give them to their mothers. Now if this teacher thought that to be polite to the lady because she was important, was of

more importance than the feeling of love in the soul of the child, it would be better for her not to set herself the problem of moral education at all, remain quiet, not to speak of love, let the children - if it be possible - love.

I do not believe that there is great need to teach children to love, because they love much. They love whenever they are able to love they love their mother, and the persons about them. It is certain that love is a great force, and unfolds together with the life of the child. This life must evidently be allowed to develop, while if we take the child, persecute him to make him keep still and keep quiet, leave his mother alone, not be a nuisance, how can it develop? What is the aim of the person who treats him like that, and does not know that in the child there is love?

Then he is not only persecuted, but even his heart is misunderstood. And it is enough to understand it to set ourselves this problem of understanding it, of sensitively following all the manifestations, allowing none to escape us, it is enough to try to interpret the acts of the child with love, to give a basis for moral education.

Here also there is an eloquent story of Christ. When Christ says "Suffer little children to come unto me," He does not say, "Men, take your children and bring them to me;" for seeing that the children want to go to him, and men prevent them, saying, "Children, go away, do not disturb the Christ;" Christ says, "Let the children come to me, since they come and it is you who prevent them. Suffer them to come, he says; then when they have come to him, he will have thought that to do. It was enough not to prevent the children from going to him.

We repeat it a thousand times, as we repeat many things of which we are not conscious and which we contradict in practice - we repeat that the children are innocent, tender. If, therefore, they are innocent and we are culpable, if they are tender and we hardened, it would be well to learn from them. Why must we make ourselves moral teachers? If this be so, we ought to seek to follow them and restore ourselves, take restorative baths, and re-animate our lives. In the early days of

the Casa Dei Bambini, many people who were jaded and morally tired, used to say, "Let us go and take a spiritual bath at the Casa dei Bambini. This restorative makes us feel many things we have lost, and yet have; it refreshes the spirit to be among the children." He, then, who goes there with the idea of moralising, is certainly not refreshed, and if he remains hard, he will not even understand the children's tenderness. For this is the first thing. It will never be possible for a gentle being who has little by little developed his tenderness, always increasing it to become a cruel, immoral person. To become cruel and immoral, it is necessary to lose what one has.

Now what the teacher can do, is to try to understand right and wrong; no longer to judge things coarsely, as we do for ex. saying that children are naughty because they move, that they have done wrong because they did not obey the teacher who wished to make them walk in a ring, or because they were not obsequious to the person who gave them sweets.

When this teacher no longer confuses these things, but has a true idea of what is bad and what is good, she tells the child when he does wrong, (for sometimes we see this without possibility of confusion) he transgresses, perhaps, against love, shows an absence of tenderness; this is bad, it must not be done, and the teacher tries to suffocate the manifestation of unkindness. This is enough, because generally children of this age do something that is not right, they do it through ignorance.

To those persons then, who ask what is the mission of the one who takes care of the children; if it be merely to stand aside, one may answer, that if we set ourselves apart, we should abandon the children, leave them alone, as for ex. in a great orphanage, in which they may be watched possibly or not, from a window.

The mission, then, of she who stays among the children is not a small one. She must help them, and certainly to help them it is necessary that she make herself able to do so. It is necessary that this person also seek to reform herself, to make herself as beautiful as possible. I do not know if I have ever said it, but we should certainly try to make ourselves as lovable as possible to the children. As we make the environment beautiful, so we ought to try to make ourselves as beautiful as

possible, as when we wish to seduce, or make ourselves loved in whatever sense. To be well-dressed and tidy, try to be as pleasing as possible, at so externally, try to make our voice pleasant and modulated, so that it falls agreeably on the child's ear; make ourselves seductive like the Apostles, seducers of souls. And also morally, we ought to make ourselves a little beautiful, if we wish to live among children, and try to be good with them - ennobling ourselves as far as we are able.

If for ex. a father should say to his child "Do not smoke, do not drink wine." and he smoked and drank himself, this father would certainly not have the right to say it. It is not possible for him to teach his child a virtue which he openly has not. Neither could a mother say to the child; "Love others." when this mother showed herself in some way selfish and wicked to others. Hence, the person who stays among the children must certainly make sacrifices, and try to perfect herself.

This is a great ideal, that in contact with the child we should seek to better, to perfect ourselves, believing that this mission is very serious. Since the sensibility of the soul of the child is made from love. The manifestations of love in the child are a necessity. Often, instead, in education, we wish to suppress them. By a strange prejudice of our mind we believe that to give love and the manifestation of love to children would be harmful to them; just as the former pietists were afraid that to warm the house would be corrupting to youth. Those who made children and boys suffer cold to moralise them, had the same moral fear in the manifestations of love, which is the warming of souls. Without love, there is no life; in fact, in the maternity of all mammals, together with milk, there is mother love without distinction, not only in woman, but also in the animals and the insects. Even in the lowliest insects there is love for posterity, a form of defence, and in many, this is certainly also a form of nutrition. The child is not only nourished with milk, it is also nourished with love. It is a real nutriment, a nutriment of the spirit which is growing. It is always being said; "Children need to be loved;" Why then, do we not love them, why are we so severe in judging them, why do we feel the weight instead of the comfort of their presence? And why should we fear that manifestations of love should corrupt them? All pedagogists say, it is necessary to love. And

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then the children must keep the greatest distance, be completely unknown to the hearts of their teachers; and the heart of the teacher might be stone to the children. Whereas it is well-known that if the master succeeds in making himself loved, he has a great influence for good upon the pupils because he nourishes them.

What is it in the education of the senses that gives the development of the senses? It is the material that corresponds to these senses. In the development of love, the material which corresponds to these senses are the other man, the other people, other souls. It is with the other souls that the inner exercise of the consciences is done; it is loving the others that one does this exercise. Hence it is we, one might say, who are the didactic instrument near to the children who have to grow in moral sensibility. It is we, because we can understand them better than others, because we are destined to remain with them, and this is our mission. It is we, then, who are the didactic material in regard to these children. Our soul is the sensory stimulus that can nourish them. They must therefore be able to find this correspondence to their needs, just as their eyes find the correspondence to their needs in the external forms and colours. And this correspondence is to know how to interpret them and correspond to them. In this case, we do not make ourselves directors, but we are the followers of their needs, we feel that they take nourishment from us as they little by little they nourish themselves from their companions. So children take nourishment from the souls surrounding them. This inner life is a life for love from birth up. One might say that the fundamental difference between the teacher who educates with this method and the scientist is in the fact that the teacher comes near human beings and approaches them with love, while scientists come near the things with which they cannot correspond or have moral correspondence. The teacher, instead, who has the spirit of respect for the phenomena of life, has also this great activity; the human activity of the conscience. Certainly it is a very difficult thing to explain, but also simple to understand; it is therefore in its understanding we must trust, not in its preaching.

But undoubtedly there comes out of this a great ideality. The fact that we do not consider ourselves teachers who instruct, and who do

have not therefore arrived at their summit but as persons who do exercises to respond to the souls that are being born, so as not to be entirely unworthy of them; the fact that we must reform ourselves little by little seeking to render ourselves sensitive, trying to touch the souls of the children and trying to respond to their love, and possibly not to be ashamed before their ingenuity, their purity, all the virtues that unfold in their souls, to try to feel the bad in us, and try to put it away as far as possible; to do this kind of continual spiritual exercises which restore us like medicine, to strengthen our hearts and heal us; to walk with this criterion, this is an ideal which can unite those who work, for this, there is no need to feel ourselves humiliated, thinking that we are not to be teachers who impose, but that we are humble persons who retire, who try to be gentle, who seek also to benefit their own lives, to restore themselves, to have moral rewards from their work; so that it is no longer the arid work of one who teaches, but the comforting work of him who earns, of him who takes, of him who is purged and is healed and also increases himself, entering near to these children, as new life. This is a conception which is certainly not humiliating, nor dissatisfying to our personality. But on the contrary it is a conception which fills it. To enter under this other point of view, in all the manifestations of our life is a reform. The following is an anecdote not specially graceful, but being true perhaps it is useful to hear it. There was once a personage of great importance who had taken the spirit of this method, who went to visit a school for girls. These recited and did all due homage etc., and then the teacher said to this great man "You have forgotten the little ones." We beg you also to make a little discourse to the little children, since it is also important for the little ones to be moralised early." And this important personage found himself embarrassed, and said, "Believe me I cannot speak of morality to little children." Then having to speak, he said, "We are now told, dear children, that we now have to learn from you, no longer you from us."

Christ also said; "To go to heaven, one must become like a little child." But think what a responsibility you have! Be good therefore. We have to learn from you, so for charities sake, be good." He did not know what else to say, but all thanked him, saying, "It is true, you have made us think more morally." It is embarrassing to set about moralising children if we think of the immorality of our time, and that they are the only hope which can purify us! Our hope is all in posterity, and we always say, that only the next generations can cure the great evils which oppress us. Very well, this is sincere talk. But between this and moralising little children, there lies an abyss. Let us try to reform ourselves, since these children are among us, who represent renewed humanity without sin, and we instead have been born long and been spoiled. Let us profit by them, try to define the ways of life, to modify ourselves, to reform ourselves little by little, in order to be able to follow them. For this reform must be made together. For the rest, this is the ideal which unites us, and it is the thing that those who have understood the spirit of the so-called method have deeply felt. They have felt that it is also a reform of our conscience which has great importance, and gives great contentment. In short, it is the recognition of these consolers, of these little teachers who live near us. It is the recognition of this that enlarges our conscience and gives us new life to advance on the way of progress. And it is upon this basis that we must not abandon the children but seek to follow them by sacrifice and love! As Christ has said, "Love them as I have loved you!" That is, whatever sacrifice it costs. It is necessary to love them like this, abandoning our selfishness, assisting them, for this is also the way of our own perfection. And these are principles which we repeat from century to century, and if a little positive science has freshened them, it has not given them as new.

They are the external principles of life which have the contribution of a material interpretation the more.

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Section Y Lecture of March 27th 1914

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This is the first of the series of lessons illustrating the Biographical Chart. I do not, however, in these, mean to confine myself to a simple illustration of the Biographical Chart but, rather, since these three days three days are apportioned to develop the subject-matter along three parallel lines, I reserve this day for all those subjects, many of which are already well understood, - that refer to the physical aspect of the child. In fact, a large part of the Biographic Chart refers to anthropologic researches on children and also to points of Hygiene, etc. As there already exist on this subject, branches of science which are far advanced, I need not do more than give certain indications. If, instead of a brief course, an organized school of preparation existed, I should then wish the teachers to make a direct study of the growth of children, from birth, for example, up to the highest age they reach in our schools, six years. This direct study of the child in its first years, especially from birth up to three years, might form part of all those biological studies which it would be well for the teacher to make in order to prepare herself for a scientific direction. By these studies, especially by the orderly observation of the growing child, one would acquire, not only a series of ideas about growth, but also, - (what I say will seem strange, but it is the part which is fundamental for us) - but also a faith (one cannot say "faith" because it is blind, - nevertheless I say "faith"), - a belief that the child grows of itself. You will say that you know this: never mind, - to know it and to acquire a profound conviction of it are two very different things. Now one cannot have the evidence of spontaneous growth without observing the physical development from the beginning.

Studies upon the growth of the child to-day begin entirely from the synthetic point of view. Many years ago, the study of the child began, also from the analytical point of view, but in an analytical manner, for example studying separately the growth in stature, the weight, etc. To-day the direction is more synthetic, although synthetic studies of children are at present limited to the laboratory and are not yet applied, for example in the schools: that is, they are in the stage of researches. The synthetic observation of the child consists in observing the whole of the body of the growing child: from these, ideas that refer to the whole, laws of growth, begin to reveal themselves, - complex laws which permit of our following all the details of the evolving of the human body.

In the evolving of the human body, rhythms of growth are seen. For example, growth is greater in one period and less in another, etc.; but it is not greater in the same period for all the parts of the body but only for certain parts, also in the parts of the organs. All these are particulars that could be worked out, given time, I repeat, making a regular study of them and this would be most useful. I think that even in this course some lessons on the growth of the child will be given. To-day I am not taking this as my subject, - merely as a point of departure, I wish to indicate some of the principal facts.

As I have already had occasion to say in other circumstances, the little child not only grows but changes. Hence we have to speak of the ~~ex~~ evolving of the child. Indeed the new-born child is not only very small compared to the adult, but is also profoundly different in the external form of his body, in the relative proportions of its parts. This difference is very marked. In the little child the head is much larger than in the adult; also the torso is greater in relation to the height, whereas the limbs are very small in relation to the rest of the body. The head of the new-born child in proportion to that of the adult would be double in height: the umbilicus of the new-born child would be, in relation to the whole body, at about the middle of the thigh in the adult; the knee of the child would be at the level of the calf of the leg: the thorax also is extremely developed.

This means that during growth the organs do not all increase in

volume in relative proportion, but, instead, there is a profound difference; some organs grow more, others less. Those organs grow less, -and hence the external parts of the body corresponding to them -that are larger in the little child: on the other hand, the parts that are less developed in the little child grow more. So, for example, the head grows less than the other parts of the body: whereas the inferior limbs grow very much. So, one might say, the head shrinks in the transformation of form, as also the shoulders.

Then there are spurts of growth in different ages: that is, the body does not grow in all the ages and periods of life proportionately. If we take the height as an index of growth, we can gain an idea of the great variation in the progress of the child's growth. For example in the nine months intra-uterine life, the child acquires a stature of fifty centimeters: Hence he acquires 50 cm. from from nothing in 9 mo.: to acquire another 50 cm. of height, five years are required. That is, from birth to the age of five, the child grows 50 cm.; the height of a child of five being one meter. To grow another 50 cm. that is to reach the height of a meter and a half, ten more years have to pass.

While growth is in these different periods, the energies of the child also have different characteristics, -his disposition, his activities, possibility of work, etc. All this is as though in strict relation with his capabilities during growth. In general, the more the organs are growing, the less possible are activities are activities of the individual having an external purpose.

The growth of the little child is especially due to the cartilages which are still in period of formation, ~~in~~ in a genetic period in which they are able to produce bony tissue and produce the augmentation of the bones, especially in the direction of length. Owing to this, the bones grow, ~~esp.~~ especially those of the lower limbs, which are long. At this age ~~and in this~~ ^{is the} period of maximum growth in the lower limbs. Hence we are in a precocious period of life in which the bone-tissue is less compact and less formed; ~~h.~~ hence the bones are less hard in the first period of life and also the ~~xx~~ cartilages are very soft. Hence we have this kind of ductility ~~xx~~ of the ~~xx~~ skeleton by which it is not rigid but can be altered, bent. At this age also the muscles are not very strong; in fact the muscles acquire their maximum.

strength after the period of puberty. After the first year, the body begins to stand in the distinctive position of the adult man, the erect position; and to keep in the erect position is a difficult thing for the body of the little child, because he has to support this large body and enormous head upon legs which are not only small but have bones not yet hard and the cartilages in extremely active evolution. A man who should have to walk with a head four times as large as ours (in volume, since it is twice higher and twice broader) - with a long torso, and also having unhardened bones, would find great difficulty, for example, in walking. There are also difficulties in sitting. Hence these positions, which are the habitual positions of the human individual in civilized life and which are so easy to the adult individual who has all the parts of his body developed, are difficult to the child.

We must remember the importance of this period in regard to development, grasp the idea that from the normal development indicated by nature depends the fact as to whether or not man can attain the dimensions, the form, and that internal construction of the tissues, which represent the robustness of the adult body. Having a certain acquaintance with the study of the adult man who has grown defectively, one hears the story ~~of~~ that is repeated again and again in all the clinics and by all the doctors: "We cannot do anything for this body that has grown badly, since help would only have been possible at an age which has now passed forever. So the fact that we find ourselves confronted by a being in process of formation, still plastic, one might say, under our hands, sets before us a duty to posterity, which duty consists in aiding infancy to reach the physique of its biological finalities, which represent the development of the body."

And these finalities are certainly not only those of the skeleton, but of all the organs. If the skeleton is the hardest part, the most rigid; and also that which from the ~~biological~~ point of view of Heredity is most fixed in its dimensions and its characteristics; if also the skeleton can encounter difficulties in development so that it is this which first and most deeply attracts our attention, - still more then should the more delicate organs be considered from this point of view, the eyes, for example, ~~which also are not born adult but are born with the possibility of an eye~~ ~~determined by biological laws. This is perhaps more evident than the~~

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which also are not born adult but are born with the possibility of an evolution determined by biological laws. This is perhaps more evident than the skeleton. To follow or not the healthy development of this organ will permit us to see or not an adult individual who will be able to use it at length in practical life, in the work that awaits him.

The study of growth, then, is not curiosity, neither is it an enrichment of the culture of those who study these subjects, but it is a question of human importance. We are responsible for the growth of the children inasmuch as they cannot guide themselves: they can guide themselves only from one point of view, - namely, that they have in themselves biological activities that can lead them to reach a finality of development. This children possess; that is to say they possess an inner activity, a biological activity, which certainly has no need of our help and with which we can interfere little. The child grows of himself and reaches of himself that determined form. Certainly it cannot be we who help the eyes to grow in this way or who can lengthen the bones of the lower limbs, etc; We cannot mould the form of the new-born child to the beauty of the adult: it is ~~the~~ nature that does it. But we can help the child in this sense, - not to hinder him in reaching his finality and to give him all those means that are necessary in the external environment for the body to reach its biological destiny: - this is the part remaining for us.

This question, which is very broad, has attracted attention for some time in the school, - namely, that of protecting the child in his growth. It has sprung up in the school because the school is - we must put it differently according to different points of view - the school is the place where all the children are gathered and are under the direction of intelligent people. Or, from another point of view, we might say this question closely touches the school because it is in the school that the child may be oppressed by work in a way which prevents him from attaining his finality. There are two different ways of interpreting the school, - here is the distinction. One of these ways of interpreting the school might be that of the future: the other is the way of interpreting it in the past or in the day in which we now are: the latter is the contemplation of the school from the point of view that the school ought not to deform the child, which is very different from the ~~other~~ point of view that the school ought to help the triumph of life

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the child. A glance at the present state of science in regard to this protection of the child, of the body of the child, in the school is a necessary point of departure for us to make clear certain fundamental ideas and to proceed in the path that we have set ourselves.

I will say at once that science has made great progress in these recent years in the research upon the maladies and remedies relative to the school. But since a science which considers man in his totality from a synthetic point of view, already rich and applicable to practice, does not exist, but there exist only sciences having an anatomical, analytical direction, as I said; these sciences refer to a point of view which is, in a way, not practical because it is the point of view of analysis, and the part, not being the life of man, cannot solve problems concerning man. Hence we see spring up a kind of symptomatic cure of maladies that seeks to remedy these one by one; and it is precisely along these lines that science is proceeding. I have here some large volumes to give an idea of the development of science. Here, for example, is the most recent treatise, that was issued in 1914, on the "Hygiene of the School". As it is a practical treatise for the use of teachers, this book shows what an accumulation of content this science has, which seeks to remedy the maladies of the school. This shows how a complete exposition of these sciences would be impossible for me, but you have only to take the modern books in your hand and, with the culture you possess, will be easily able to study and verify this tendency.

Wishing to take, from so great an accumulation of knowledge, everything that may serve as an example in the individual study which you can then make upon this subject; it is necessary to collect some of the principal points. Naturally all hygienists are now in agreement, - and these are the points most studied since they have been perceived for a long time, - that the ills of the school refer to two organs or two systems of the human body, - the eyes, and the skeleton. They speak officially of professional maladies of the school, and professional maladies of the school are chiefly two, - myopia, and spinal curvature; that is to say, a harm done to the sight, which diminishes the acuteness of vision, and a distortion of the skeleton consisting in lateral deviation of the vertebral column. These two, which are the professional maladies, since they are not illnesses

xx it has not been known how to name,, have been much studied, and may be called professional maladies since they are not illnesses due to infectious causes nor to malorganization of the body, but from adaptation to work. These two ailments, I say, have been much studied with regard to their ~~max~~ causes, which we may here summarize. One might say that there is a single fundamental cause comprising both these ailments, and that is the necessity that the pupil must remain seated for a long time ~~as a necessity that~~, ~~as a~~ a necessity that arises ~~that~~ from the fact that the pupil must listen to the teacher or else read or write. As regards the eyes, the chief cause is ~~this~~ this, that the child must read and write; but it is not, in itself, because he must read and write that this malady arises, but because he must do this sitting still in the place assigned to him in the school. The fact that ~~the~~ children must always sit still in the school depends on this, that we know no other way of learning than that of listening to someone who speaks and of reading books. In fact the knowledge possible to us consists in the ~~any~~ apprehension of the ideas of others; hence we have to learn by those means which are accessible, that is, by taking the ideas of others, either from the voice of a person who speaks to us or by reading books.

In order not to digress and to say nothing arbitrary, I repeat some precise notes taken from ~~some~~ ~~the~~ the principal text books concerned. The fact of the weakness of the child's sight arises from the fact that the child reads a book or reads from the blackboard for a long time, or reads from the blackboard at distances that are not suitable to his visual powers, and reads the writing of the teacher on the blackboard, which ~~the~~ writing is not suited to his vision. Another factor that may be unfavorable to maintaining the vision in its normal state refers to the light. As is known, light is an important factor. We know that when the light is insufficient, one cannot read so easily. One has therefore to make accommodation, for instance, to bring the object that contains the writing nearer to the eye. If however this cannot be done, then it is the acuteness, the power of accommodation natural to the eye that must constrain the eye so as to be able to see. When the light is insufficient, much more light is needed to see than when the light is sufficient. If this time is not given, then the child has to make an effort of accommodation to succeed in

reading faster than is naturally possible. An almost infinite power of adaptation or adaption in the eye has been demonstrated by researches made recent times upon the hysterical, who, under a nervous impulse or by pathological fact and also by the possibility of suggestion, have arrived at a power of accommodation that seems fabulous to us. For example, hysterics have been given those tiny pocket editions of books in which the Divine Comedy of Dante is ~~entirely~~ contained in a form that can be enclosed in the hand: they have been made to read the writing in these books with a ~~very~~ glass the wrong way around, so that the lens diminishes the size of the writing, and they were able to read it. This means that the powers of accommodation are exceedingly great. Certainly the pathological fact exaggerates them, but undoubtedly all can subject themselves to the greatest strain. So giving unfavorable conditions does not prevent their being but merely excites an exaggerated exercise which, in the case of an organ in evolution, can cause damage to the organ, as happens in these maladies.

Statistics are interesting, in this connection, upon myopia among school children taken in relation to their study, more or less advanced, more or less intense. The percentage of myopia increases with the age of the children when they continue to study in the same way; so that, referring to the child, we cannot do other than consider this, in its beginnings, this evil which we find in the adult. This, for example, we have from the statistics that I have here, - that the schools in the country, where the children ~~where~~ ~~the~~ go to school for a small number of ours, - in these schools the percentage of myopia at 7 or 8 years is 9.8% and in the schools for the rich in the city it is 7.5 per cent. If then we pass to the age of fourteen, we find that in the country schools the percentage is 2.4, and in the superior schools, those of the city, 20 %. In the Universities and the higher schools, the percentage for myopia reaches 50%. An interesting study has been made, a kind of parallel between the percentage of myopia in boarding-schools, where the children remain shut up the whole day, and the children outside, who stay, like the others, to study in the school for certain ours but afterwards return to their homes. The day-children were myopic in the proportion of 18%, and the boarders of 33%. We are ~~in the same~~

therefore, able to draw conclusions, - I might almost say laws. Myopia ~~the~~ increases with the age of the pupil, with the level of the studies, and ~~is~~ ^{also} with the number of hours the child applies himself to study in the ~~the~~ school. So, for example, an author has recently made this statistical study among individuals ~~who work more than three hours~~ and has found that ~~who~~ work more than three hours of the day at school, ~~xx~~ there is 17% of myopia; among those that work four hours, there is 22%; ^{xx} among those that work six hours, 40%; and among those that work more than six hours, 40.8%.

As these percentages, these statistical studies that are multiplied everywhere (researches are almost infinitely numerous) have shown that it is the school that produces such an impressive evil, the necessity of exercising a supervision has come in consequence, - to practise a series of means to prevent, correct as far as possible, this defect, - preventing and hindering the causes themselves of this ~~defect~~ defect. Here begins the active part of science, - the remedies. The first thing that the hygienists have considered has been that of giving sufficient illumination so as to avoid the necessity of forcing the eye to see; and the studies upon this have been very exact. In fact it is not only necessary to give very large windows so that there is a great quantity of light, but also to proportion the height and size of the room so that every child has the minimum of light found necessary by the specialists, measured, as you know, in candle-power. Another remedy is that of an adjusted desk, so that the distance between the child's eye and the book and table is measured according to the visual acuteness. Reading should be at 30 mm. distance; the printed letters have to be large enough so that there is no visual strain, and therefore the scientists have determined that the height of the letters in school may be able to read for so long as they do, without tiring, should be three mm. and a half. Another thing much considered by the hygienists is the writing, - upright instead of oblique. Upright writing causes both eyes to be at the same distance: on the other hand, for oblique writing, one eye being farther away, a difference may occur in accommodation, etc. Also the hours of work in the school have been determined, and the division of work. Thus, for example, - not to work for a long time but intermitently, with rest

times, this is one of the remedies advised, as, also, not to give much home work to poor children since poor children do not have much light in their houses, etc. In fact improvements have been made relating to this defect which comes from the school itself.

So we find ourselves confronted by a kind of difficult construction made by science in order that the sight of humanity may be preserved. In this tendency we have the whole conception of the school of the past: for, supposing that there were none of these hygienists who measure even the candle power of light for every child; the length and breadth of a room, the length and depth of the windows, in order, so, to help the life of the child, - if there were none of these, would the children become blind? No. Even given that they should have to read and write, they surely would not become so if it were permitted them to obey a force able to correct and to make the child himself avoid the perils of the environment. If, for example, the teacher writes in such a way that the child yonder cannot read and the child comes nearer, there is no effort of accommodation; and we may be sure that in this case the child would rise and come nearer to see. For example, if the child should become tired after having read a single page and no one should oblige him to read more, the child would not read any more and the effort of accommodation would not occur: if it were too dark in one part of the room and the child were permitted to go somewhere else, he would do so, and there would be no effort of adaptation. If, when it is dark, so much haste were not demanded in reading, the child would not suffer, and neither would there be need of the mathematics which studies the exact size of the windows, the angles at which the light falls, etc; for an inner force would come into operation, the guiding force that is implanted by nature and is one of the greatest of natural forces, - that of self-preservation. Everyone can direct himself by this guide: as, if, instead of saying, "all this is necessary in order that the children may not become myopic" one should say merely, "let us leave the children free and see what they do to remedy this evil"; then we should begin to see the activity of the child who seeks to save his eyes by avoiding bad light, excessive efforts of accommodation, etc. But one of the most fundamental faults is evidently this, that the child has to

~~follow a very exact, and fixed, and artificial, and unchangeable, and~~

teachers, this other duty that they had not formerly considered, the duty of preventing their pupils from becoming hunch-backs.

~~Hygienist~~ Dr. Legèndre, a great hygienist, a great doctor, said: "The school is a factory of myopics and hunchbacks. Let us impress this idea upon the conscience of the teachers, and this will be enough to ~~enlighten~~ ameliorate humanity". The teacher, then must have this sort of ~~Damocles~~ Damocles' sword over her head and must see to it that the children do not stoop and must act as the oldtime teacher did when he was intending to develop character, saying, "Stand straight, don't lean!" The teacher will not say it to them but will have this menace always in her mind. In short the teacher must be enlightened to notice all these details of position, because this new duty must be borne in her, - to save the children from a deformity. And because this continuous activity cannot be given only to the responsibility of one teacher, then there is given to the teachers an aid, which consists in this modern fact of the hygienic school, - of interrupting the occupations of the children in such a way that, - given that the teacher could not follow 50 or 60 pupils in every detail, seeing also that this teacher must teach everything herself and that upon her depends all the proceeding of the school, - then, in order to make possible this hygiene, they say to the teacher, "Every half hour, for example, these children will rest." And then, every half hour, these children rise to their feet and do a little gymnastic exercise in a hall where there is space, leaving the benches (if they don't remain in their seats) and usually at these periods they open the windows of the schools which are more advanced hygienically, so that the air is changed; and generally the children do some respiratory gymnastics in such a way that the parts of their bodies can return to their natural position. Of course this leads to an interruption of work disadvantageous to the child's to the child's ~~idea~~ learning.

Now this school with the interruptions and also with another ~~fact~~ fact, more definite, of actually cutting short the program (because it is evident that it is the too great number of hours in that position that produces these deformations), - this school acts so that the child saves his skeleton and his eyes at the price of ignorance. And it is considered to be right, at whatever cost, to save the child's body.

In this regard also, the vertical writing has been one of the great remedies for the dangers of deviations of the vertebral column. Indeed, when the child had to write turned to one side, then evidently, with the prolongation of this position, it was easy for the backbone to become twisted to one side. Therefore it is decided to adopt vertical writing because, so, both sides of the child can be equally supported in a symmetrical fashion and the deviation of the vertebral column will not occur.

But also here it has been observed that, as one arm remains still and the other on the contrary moves because it does the writing, the remedy is very imperfect. Not only this, but there is another fact of more weight, that is, by putting both elbows at once on the table the chest is compressed on both sides, while, when the child used to write with only one side, he had the left lung which breathed freely. Instead, when both arms are put on the table, both lungs are prevented from respiring well. And it is noted that the school-children have a thoracic perimeter extremely underdeveloped, less than normality, so that the children are coming artificially to lose one of the most important activities of the physical life, to diminish their lungs at an age in which also the skeletal characteristics are being established little by little, so the children will come to have indefinitely a bony thoracic box too little developed, in such a way that also the adult men will have lungs too compressed. Hence one of the most modern considerations, that this very great diffusion of tuberculosis might be closely connected with the fact that the school-children are constructing for themselves a chest abnormally too narrow. Another and very recent hygienic remedy is this, - to measure the desk, the seat, the body of the child, in a manner so exact that the child's backbone must never be curved when he is writing: but, as it has been seen that every child happens to grow during the scholastic year, then in the most modern schools the children are measured twice a year or once every ~~trimes~~ trimester, in a most exact manner, in order to fit the parts of the body to the bench; and every three months or every six months, according to the frequency with which all these measures are repeated, the children change their seats. So the teacher or the doctor who assists him must do this great work of measuring the children and establishing each place determined according to the anthropological measurements.

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If, for example, it should be said: "Let us permit the children to write without determining a position and let us see how they place themselves to write", there would certainly be a saving of a great deal of time from these measurements and also a saving on these perfected benches. When the children would probably be seen to take various positions, those which they feel most adapted to their needs. For example, many of our children choose, as a writing position, a posture which is recognized by hygienists as excellent to aid the normal development of the vertebral column, but which, however, they take great care not to put in practice in the schools; the position you will sometimes have seen taken by the very little children, namely that of stretching out the body itself on the ground with the feet in the air, according to the child's desire, and then the child writes on the ground. Evidently, in this position, the backbone is completely at rest. This position has been selected by the child. So we see in various ways that the child adapts his body to writing; and above all we observe this, that, if the child feels weariness, instead of taking a bad position he leaves off writing.

To give liberty in the choice of posture is a very much more simple way of solving this problem. I should like to give an idea of the difficulties which are presented by these hygienic problems limited to a particular consideration, as, in this case, of the partial consideration of the child's development. These problems very often seem really insoluble and lead to great labours of the scientists. It is said by the modern authorities that the standard that must be adopted in the school is this; that the furniture be adapted to the child and not the child to the furniture. How isn't it perhaps strange that this should be put as a basic principle of hygiene, - that the furniture be adapted to the child and not the child to the furniture? Therefore we take this child as a thing which belongs to us and which depends upon us, like the furniture; and if we ~~dispute~~ argue that the furniture must be adapted to the child and not the child to the furniture! As if to us the child and the furniture are very nearly the same thing! It will be quite a great thing to say which must be adapted and which not. It seems more logical that the child ought to be adapted, - instead it is the furniture which must be adapted to the child! It is truly a principle rooted in our consciousness that nothing exists in the child and that we must do everything for him, that his salvation rests uniquely in our wisdom and that nothing exists in that child of a wisdom greater and

in our wisdom and that nothing exists in that child of a wisdom greater than ours. And yet we know that the child takes his form by himself and grows by himself. This means, therefore, that within the child there is something which is very superior to our power; and if this fashions him in beauty and makes him become a man, it means that this power is wiser than we. The child is in our hand, - let us see what we can do. For this, for adapting the furniture to the child, there are required three orders of cognitions; anatomic cognitions, pathological cognitions, and physiological cognitions. The anatomical cognitions consist in measuring all the body, the pathological consist in the knowledge of ills which can come to it, etc.; the physiological are the most interesting.

Among the principal physiological cognitions, these are coming to be considered; - that muscular fatigue, as is understood to-day, comes above all from the fixed attitudes of the body, because in the fixed attitudes there is a perpetual contraction of certain muscles which must maintain the body in a determined position, while, on the other hand, mobility prevents weariness and muscular fatigue. So true it is that, in order to make the child rest from sitting positions, they make him do these short gymnastic exercises which permit him to move himself. Therefore the child's rest is not to remain still but to move himself. No - he must stay fixed, seated; and it is we who must make him move, after having discovered that motion is rest. And in what manner must we make him move? In the manner discovered as the one most adapted for making him rest. Monotonous motion also tires the child, while varied motion does not tire him. But for this purpose when we make him rest, we always make him do those movements which are in reality monotonous. One proof that by monotonous movements the child becomes tired and by free movements does not, is this: the child led by the hand to take a walk is wearied at once; on the other hand, the child in all the things of his life is continually moving himself in such fashion that what tires him is to be kept still or to move himself methodically. Hence it is necessary to seek a normal and correct attitude so as to avoid this effort, this continuous contraction of muscles which must keep the child still. Now, in order to arrive at this point, - namely, that the child keep still without an effort, there is need to do ever so many things, and first of all to make a study of the center of gravity.

Here, for example, in this book, there are four pages, which I do not read because the hour is too late, but which, however, it would be interesting to read, - four pages on all the problems which present themselves in regard to the child's center of gravity.

read, because the hour is too late, but which, however, ~~fix~~would be ~~interesting~~ interesting, - four pages on all the problems which present themselves in regard to the children's center of gravity in their various positions, - ~~an~~ concluding this discourse by giving some ideas to be put in practice to the end that the children shall have this center of gravity in their enforced school position without an excessive effort; and the practical conclusions are these:

"The child seated at the workdesk must have his feet placed flat, straight down, on the floor or on a footrest; the legs must form a right angle with the thighs, as also the thighs with ~~themselves~~ the trunk, except for a slight inclination of the bench itself. The trunk must be without ~~inter~~ lateral inflections of the vertebral column; the arms must descend parallelly along the body; the thorax must not be pushed out of position by the front edge of the desk; the pelvis must be symmetrically supported; the ~~the~~ head slightly inclined forward at 30 cm. from the level of the desk; the axis of the eyes, eyes, remaining parallel to the anterior margin of the desk, must be horizontal; and the forearms, two thirds of their length laid on the desk, must rest, without however being supported too much?"

Because there are all these conditions, there is need for the child and the desk to be measured suitably for the child's body. Now, before determining the dimensions which the school desks and seats must ~~have~~ have, there is need to proceed to the measuring of the pupils, individual by individual, and therefore in some schools, there are taken some special measurements, which are: the stature; the height of the leg below the knee (which gives the height of the seat); anterior-posterior diameter of the body, taken from the sternum and increased by 5 cm. (which gives the distance of the table from the back); the length of the thigh (of which two thirds gives the depth of the seat); and, finally, the height of epigastric cavity from the seat, increased by some cm., (which shows the height of the desk). We may add that the rapid growth of the child necessitates the repetition of these measurements every three months and the change of the child's seat according to these measurements".

Hence it becomes a great difficulty, this of obliging an individual to keep in a position which is evidently abnormal, and, ~~far~~ for him, to become a normal man. A special science is needed which, based on an ~~analysis~~ analysis, ~~is able to diminish that particular defect~~ ¹⁶ ~~say~~ "let

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analysis is able somewhat to diminish that particular defect. One might say let man grow normally, and he will become a normal man, do not oblige him to do this work which is disastrous for his body and there will be no need for all these remedies.

The problem of scholastic hygiene must really consist in this, and also given that we have bettered the sight and the state of the spinal column of our children, we have achieved a localized object in correcting an organ. But this child whom we see a little better of and whose spine is a little straighter, with all this immense work and with the continual supervision of the teacher what will he himself become, if his spinal column is bent, if his eyes whose refinement is the greatest marvel of man, this being the index of the senses, if all this becomes deformed what will become of the rest?

The ills of the child are undoubtedly best to be seen in these parts, but the evils must exist in the whole organism. In fact medicine continuing its studies, even if only physical, must conclude that the child is not only thus, but predisposed to tuberculosis, anaemic, liverish, neurosthenic etc. If an individual to be educated has to become hump-backed, blind, suffering from nerves, liver etc. what will become of his inner life, how can his highest powers develop. What then must we teach these children, what are the moral benefits that they acquire giving their bodies in sacrifice? This is the problem that hygiene should set itself, not that of straightening the spinal column, or leaving the sight of the child intact. But if there is so serious an exponential this exponential must denote; Let us consider the problem as a whole and if there is a form of school which obliges the children to deform themselves, evidently this form of school must be modified, if there exists in the child an inner force, which would lead him to save himself, liberty must first of all be given to this inner force, and all the rest will follow. To-day it is considered that even at the cost of ignorance the spinal column must be kept straight. But what matters the greater or less teaching in comparison for example with the moral character of the child, the man of the future? It is his whole personality that we must consider. In fact if so much physical harm is caused as to bring about a great branch

of medicine that of the school, what will be the moral effects upon humanity subjected to this martyrdom? It is above all the moral question that leaps up before our eyes. They say: Be even ignorant but save your body. No, before the moral question we must say: But even if the body is lost, let us consider a little what will become of these men. This is the most formidable question that presents itself before us. If the hygienists wish to implant in the conscience of the teacher to watch to prevent the slightest deviation of the spinal column, greater still should be the awakening of her conscience with regard to the inner life of the children. It is the same question that is presented to-day among the workers in society. Among the labourers for example, there is the question of the working man. In what does it consist? It certainly does not consist in finding remedies for the evils that arise from work. For example, if girls who sew for too many hours of the day become tubercular owing to the position of the chest, they certainly do not call for cod liver oil, or the possibility of going for a month to the sea side. But what do they ask? They ask for a diminution of work, call for work in more hygienic conditions, that is, the transformation of work, and the transformation of environment. Thus for example, workmen who become deformed by their work ask perhaps to be remedied by some orthopaedic machine; perhaps demand that the state should institute free orthopaedic institutions for workmen? No, they demand that the work should be transformed so that they need not become deformed this is the principal of protection from work, and the remedy for the evils of work, is a remedy of the social order, not of hygiene, medicine; and that which the workman who is so oppressed by external work as even to be deformed, claims above all is his human birthright. He asks to be educated, to be given elevated amusements, like other men, to be able to enjoy a moral life like other men, to be able to give many hours to his family, in short, that which the man who is oppressed feels, is not so much the symptoms presented by his deformed body, but above all the redemption of his spirit. He wants the rights of man, not the cure of his symptoms. And if this is true of the adult individual, how much more must it be so of the child? And if this is the question which concerns workmen, that is the single category of

men, what greater question is this that concerns not a category of men, but the whole of living humanity and not humanity strong and conscious, but humanity unable to defend itself and uphold its rights, the humanity which is given completely into our care? If then we speak of the hygiene of the school, if we speak of a hygiene of the child with respect to instruction and education, this hygiene cannot be limited to the analytical study of the parts, because the problem is immensely more profound.

We can see, however, that if there exist in the individual a series of biological forces which lead him irresistibly to attain a distant finality, to leave the individual free to obey these internal forces is a first fundamental principal of a hygiene that wishes to reform the school. It cannot therefore be a question of desk or window, it is a question of liberty that is fundamentally involved and it cannot be a modification of the environment but a modification of method which is needed to remedy so grievous so formidable an evil; an evil that is thrust upon the vision and that has attracted the attention of so many scientists as upon a scourge common to the whole of infancy and youth that studies. This is a principle that will have to reform the new schools; before pursuing the more evident deformations of the body, before remedying and instead of remedying the evils which the school produces it is necessary to give a school that does not produce evils, and not only that, but a school that helps the developing individual towards the biological finality that is inherent in him. If we can come into contact with infancy in a period in which it is not yet formed what good fortune! For this gives us the opportunity of helping childhood to reach its goal.

Hence the problem is that of creating a school in which the adult will be able to help the child to attain the triumph of his life. This is the great problem that is imposed upon us, when we become aware of these maladies of the school. Not to have known them could have left us in ignorance, and rendered us blameless instruments in a human disaster, but having perceived them it is no longer possible with such inadequate means to silence that conscience which the hygienists themselves wish to awaken. It is a great reform that is imposed upon us to save the child.

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